Brief Introduction

Notices

This User Manual, compiled by ACCESS MOTOR, is especially for the distributors and service personnel of ACCESS MOTOR. Impossibility of covering all knowledge related to ATV defines the User Manual to be used by the mechanic, who can further develop a good sense of theory of engine, procedure of maintenance, and skills of maintenance, in only maintaining and repairing ACCESS MOTOR ATV. In the event of lacking such know-how, either inappropriate fitting or danger upon assembly, in the process of repairing ATV, will occur.

ACCESS MOTOR will try hart to improve all types and inform the distributors in advance in case of any modification or alteration of the specifications and make it incorporated into the revised User Manual.

It is important to notice.

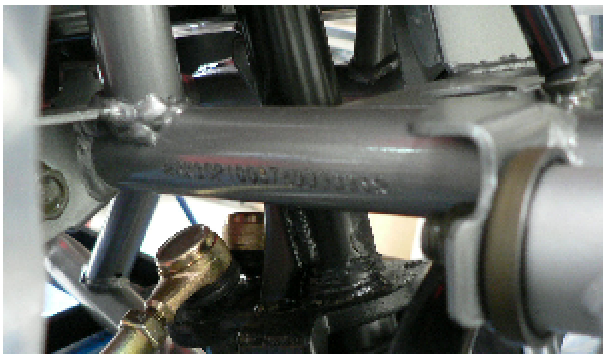
The following three words always appear in the Manual and are outlined below:

WARNINGS: it indicates some procedures must be abide by; otherwise may cause damages to the operator, other persons or vehicles and even cause death.

NOTICES: it indicates some procedures must be abided by, so as to avoid damages upon vehicles.

NOTE: it indicates some procedures are detailed in the note.

1. Identification of the ATV Body and Engine



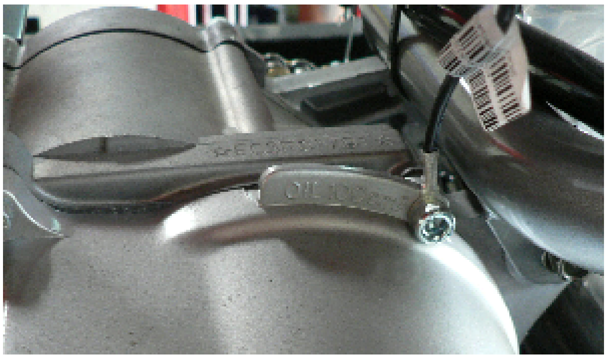
1.1 Stenciling Position of VIN Number

2nd European Code

50CC：RK3SP10037A000001

1.2 Stenciling Position of Engine Number

50CC：E03R000001



2. Important Notes

A. Preparations

1. Assuredly clear up dirt and dust on the engine of automobile to avoid it to be interfused in the engine or other parts.
2. Special tools, appropriate instrument, and correct operation should be applied to special places in efforts not to damage the special parts, e.g. double open-box wrench set and socket wrench shall be used instead of spanner.
3. It is noticeable for dismantlement and assembly.
    - Measure and record the dismantlement as reference for the assembly.
    - Keep the dismantled parts by classification in order to avoid mixing and loss.
    - Clean the engine, gears and other parts with kerosene and diesel oil and have them dried with air after being dismantled.
    - Compare the repaired and maintained parts to that before being dismantled and then assemble them.
    - Parts for assembly must be kept from any foreign matter.
    - All bumpers must be operated before assembly.
    - All movable parts must be supplied with lubricants or greases.
    - Lock screws with the designed torque.
    - Closely coordinate with each other in order to avoid loss or disoperation.
4. No fire is permitted during the maintenance and in the maintenance place.

B. Gasket, Oil Seal and O-typed Oil Ring

1. Gaskets, asbestos gaskets, oil rings, bolts and small clips shall not be reused after being dismantled.

C. Special Tools

Special tools shall be applied to special places in efforts not to damage the special parts during dismantlement and assembly.

Adjustment and Measurement

1. Engine Speed Meter: to test the engine speed

2. Gage:
To measure the gasoline level of the floating chamber

3.Torque Wrench:
To lock screw caps and bolts and measure the torque

4. Avometer:
To test the voltage, current and resistance

5. Vernier Scale:
To measure the depth, inside diameter and diameter etc.

6. High Voltage Coil Meter:
To detect the gap of the spark plug.

Engine

1. Crankcase Tools
To dismantle the crank shaft and the crank case.

2. Rotating Part Fixer

To unfasten and fasten the screw caps and fix the clutch assembly and generator.

3. Generator Flyer Drawer

To dismantle the generator.

4. Clutch Twister

To remove the clutch springs.

1

2

5. Oil Seal Assembly Tools

Oil Seal Leading Tools

Oil Seal Assembly Tools

To be used to assemble the oil seal of the crank shaft

6. Oil Seal Leading Tools

To be used to assemble the oil seal of the clutch

7. Clutch Cover Scotch
To fix the clutch disk

8. Wrench
To fasten or unfasten the caps on the clutch

1
2
3

9. Crank Assembly Tools
   Crank Assembly Tube
   Crank Assembly Bolt
   Crank Assembly Connecting Tube
To be used to assemble the crank shaft and the crankcase

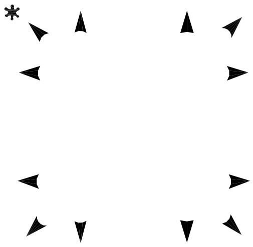
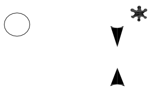
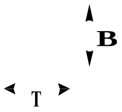
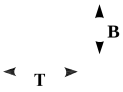
10. Shock Eliminator Adjustable Wrench
To adjust the shock eliminator’s springs

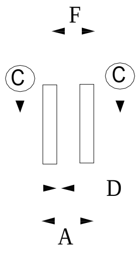
11. Tyre Pressure Gauge
To be used to detect the tyre pressure

Data Sheet

Specifications:

Types	**SP50**
Length **Width** **Height** **Distance between shafts**	**1825 mm** **1230 mm** **1140 mm** **1270 mm**
Weight	**181 kg**
Engine **Original Type** **Layout of Cylinders** **Total Piston Displacement** **Bore * Stroke** **Compression Ratio** **Types of Start**	**Air-Injection Crankcase for Two-Stroke Engine** **Single Cylinder** **49cm^3** **40.0mm*39.2mm** **9.5:1** **Electric/Foot Kick**
Method of Lubricating	**Separate Lubrication**
Brands of Lubricants **For Engine** **For Gears**	**2 Stroke SAE #20** **SAE #40**
Amount of Lubricants **Engine Oil**	**110±10cc**
Gear Oil **Amount Changed** **Total Amount**	**0.2L** **0.22L**
Air Filter	**Wet Materials**
Fuel **Type** **Amount in Gasoline Tank**	**unleaded gasoline Only** **14.8L**
Carburetor **Brands and Types**	**TK (VM16SS)**
Spark Plug **Types and Brands** **Gap**	**BPR7HS** **NGK** **0.9~1.0mm**
Types of Clutch	**Dried Inward Direct-Loaded**

Types	**SP50**
Cylinder Head: Torque Limit: 	**0.03mm** * **Check according to the six directions**
Cylinder	
Inside Diameter:	**(39.993~40.012mm)**
(Upper Limit)	**0.1mm**
Taper Limit	**0.05/100mm**
Out of Round Limit	**0.006mm**
Piston:	
Size of Piston:	**39.958~39.972mm**
Measurement Position*:	**5mm**
	
Piston Clearance:	**0.035~0.040mm**
Piston Ring:	
Sectional Drawing: 	**BxT=1.2x1.6(mm)**
Top Ring:	
2nd Ring:	**BxT=1.2x1.6(mm)**
	
Depth of Ring Groove: Top Ring :	
2nd Ring:	**0.15~0.35(mm)**
Close Gap: Top Ring:	**0.15~0.35(mm)**
2nd Ring:	**0.03~0.05(mm)**
	0.03~0.05(mm)

Types	SP50
Crank Shaft:  Width A for Crank Shaft Assembly: Width C for Crank Shaft Assembly: Gap D for Big End of Connecting Rod: Oscillation Amplitude E for Bid End of Connecting Rod: Gap F for Small End of Connecting Rod:	**37.90~37.95mm** **0.03mm** **0.2~0.5mm** **0.004~0.017mm** **0.4~0.8mm**
Clutch Thickness of Clutch (Upper Limit) Length of Pressure Spring External Diameter of Balancing Weight (Upper Limit)	**0.4~0.8mm** **2mm** **1mm** **29.9mm** **15.0mm** **14.5mm**
V-Belt Width of Belt (Upper Limit)	**16.6mm** **14.6mm**
Foot Pedal Type Designed Value of Spring Pressure	**Gear Idle** **0.15~0.25Kg**
Leaf Valve Thickness Obstruct Height	**0.150~0.154mm** **6.0~6.4mm**

Engine Fastening Torque

Item	**Thread Dia**	**Torque (Kg-cm)**	Qty
Spark Plug	M14x1.25	150~250	1
Cylinder Head	M7x1.0	130~150	4
Double-Headed Bolts for Cylinder	M7x1.0	140~200	4
Bolts for Water Pump Cover	M6x1.0	70~100	2
Bolts for Dust Cap	M5x0.8	30~50	2
Lubricating Pump	M5x0.8	30~50	2
Leaf Valve	M6x1.0	70~100	4
Air Filter	M6x1.0	70~100	2
Exhaust Pipe	M6x1.0	70~100	2
Exhaust Tailpipe	M8x1.25	120~150	1
Crankcase R, L	M6x1.0	70~100	6
Crankcase Cover	M6x1.0	70~100	8
Gear Box Cover	M6x1.0	70~100	6
Bolts for Discharging Oil	M8x1.25	70~100	1
Gear Idle Plate	M6x1.0	70~100	2
Foot Starting Rod	M6x1.0	70~100	1
Starting Motor	M6x1.0	70~100	2
Counter Grooved Wheel Assembly	M28x1.0	450~550	1
Clutch Cover	M6x1.0	100~160	1
One Way Clutch	M10x1.25	250~350	1
Generator Seat	M6x1.0	70~100	1
Generator Rotor	M10x1.25	250~350	1
Drive Sprocket	M14x1.5	300~400	1

Types	**SP50**
Front Damper Stroke Length of Springs (Upper Limit)	
Rear Damper Stroke Length of Springs (Upper Limit)	
Wheel Types of front wheel Types of rear wheel Size and materials of front disc Size and materials of rear disc	 21x7-10 20x11-9
Brake Type Inside Diameter of the brake drum (Upper Limit) Thickness of the brake block (Upper Limit)	 Disc 85mm (85.5mm) 3mm (1.5mm)
Rear Brake Type Thickness of the Brake Sheet (Upper Limit) Type of Brake Fluid	 Single Disc 4mm (0.8mm) DOT#4

Body Locking Torque

Item	Thread Dia.	Torque (Kg-cm)	Qty
Bolts for Holders above Handles	M8	150~250	2
Nuts for Steering Linkage Axle Seat Cover	M8x1.25	200~300	4
Nuts for Steering Linkage	M8x1.25	200~300	2
Self-Lock Nuts for Front Brake Drum	M12	650~700	1
Fixing Nuts for Front Disc	M14	900~1000	2
Fixing Nuts for A Arm	M10	450~600	8
Upper and Lower Bolts and Nuts for Front Shock Eliminator	M10x1.25	450~600	4
Self-Lock Nuts for Steering System	M10x1.25	450~600	4
Bolts for Gasoline Pipe	M10	450~600	4
Bolts for Engine Fixer	M8	200~300	6
Bolts for Engine	M10x1.25	450~600	2
Bolts for Rear Damper Cover	M12x1.25	650~700	1
Bolts for Rear Stirrup	M8x1.25	200~300	2
Fixing Bolts for Rear Wheel Axle	M14x1.25	900~1000	1
Bolts for Rear Brake Caliper	M12x1.25	650~700	4
Bolts for Holders of Rear Brake Disc	M8x1.25	200~300	2
Rear Shock Eliminator	M10x1.25	450~600	4
Self-Lock Nuts for Rear Disc Holder	M10x1.25	450~600	2
Rear Nuts for Front Disc	M18	1200~1350	2
Bolts for Rear Chain Wheel Base	M10	450~600	8
Bolts for Gasoline Tank	M10	450~600	4
	M8x1.25	200~300	5
	M6x1.0	75~120	2

Types	**SP50**
Voltage	12V
Ignition System	
Ignition Timing	18◦/5,000rpm
Type of Advance Angle	Electrical
CDI	
Type of Generator	3XG
Ripple Coil Resistance Inside/Color	500Ω±20% W/R-B
Charging Choke Resistance Inside/Color	800Ω±20% B/R-B
Ignition Coil	
Type	3XG
Primary Winding Resistance	1.1Ω±20%
Secondary Winding Resistance	6.6KΩ±20%
Minimal Spark-Lug Gap	6mm
Spark Plug Lid	
Type	Resin
Resistance	10kΩ
Types of Charge	
Flywheel Generator	
Model/Brand	3XG
Charging Choke Resistance	0.6Ω±20%
Ignition Coil Resistance	0.5Ω±20%
Voltage Regulator	
Type	Short Circuit by Semiconductors
Selenium Rectifier	
Type	SH614-12
Capacity	8A
Storage Batteries	
Capacity	12V 5AH
Specific Gravity	1.32
Starting Motor	
Type	3XG
Breaker	
Type	Fuse 4A

Total Torque Specification (Standard Bolt)

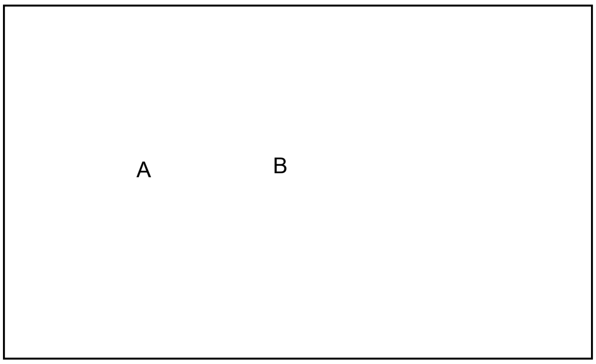
This table is conformable to the Bolt Locking Specifications released by the International Standard Association.

Lock bolts across or subject to the designed order in order to avoid any torsion or unbalance.

※ Use a torque wrench to test the torque

※1kgf.cm=0.098066N.m

A	**B**	**Total Torque**
		Kg/cm
10mm	6mm	60
12mm	8mm	150
14mm	10mm	300
17mm	12mm	550
19mm	14mm	850
22mm	16mm	1300



A: Through Space

B: External Diameter of Screw Thread

Inspection & Adjustment Section

The maintenance intervals in the follow table are based upon average riding and condition. Riding in usually dusty areas requires more frequent servicing.

Periodic Maintenance/Lubricating Table

Items	First 200km and 30-hour's Riding	Every 100 hours	Every 200 hours	Every 300 hours
Engine Oil	I	I	I	I
Gear Box Oil	R		R	
Air Filter		C		R
Fuel Filter			R	
Oil Filter				R
Spark Plug		I	I	I
Carburetor			I	
Engine Idle	I	I	I	I
Throttle Valve Operation				I
Fuel Pipe			I	
Turning of Front Arm A				L
Steering Linkage Operation				I
Brake Gasket			I	
Driving System				I
Suspension System				I
Batteries			I	
DRIVE BATTERY				I
Wheel Bearing			I	
Chains			A	
Throttle Cable				I
Cooling Water in Water Tank	Inspect and add every day before riding			
Brake System	Inspect every day before riding			
Type Pressure	Inspect and add every day before riding			
NUTS/BOLTS/FASTENERS				T

A: Adjust C: Clean I: Inspection R: Replace T: Tighten L: Lubricate

Dismantlement of Engine

Notes:

The engine shall not be dismantled in case of removal of the following parts:

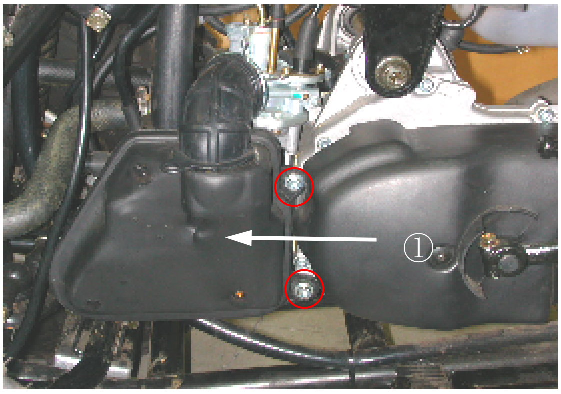
- Main and Counter Grooved Wheel
- Carburetor
- CDI Generator
- Starting Motor
- Lubrication Pump
- Cylinder Head
- Cylinder
- Piston

Cushion, Covers, Storage Batteries, Boxes and Foot Pedal

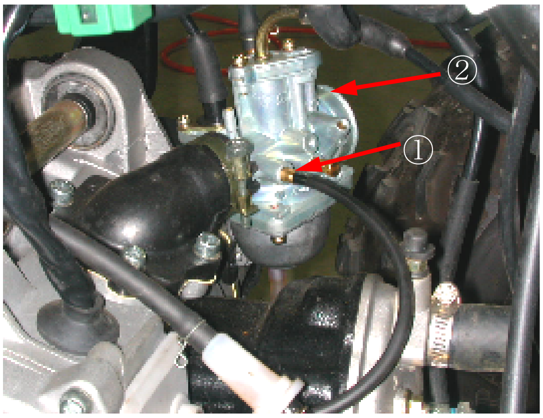
1. Dismantle:
   - Cushion
   - Covers
   - Storage Batteries

Carburetor

1. Dismantle:
   - Ventilating Tube (beside the carburetor)
   - Air Filter ①



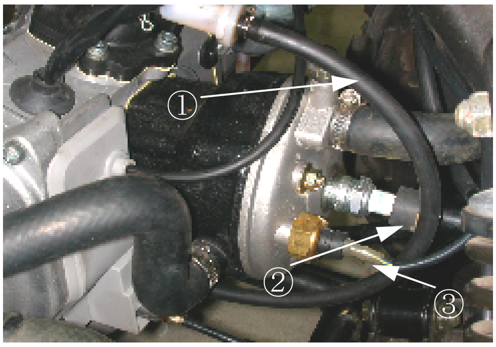
2. Dismantle:
   - Lubricating Pipe ①
   - Carburetor Assembly ②



Dismantlement of Engine

Pipes, Wire Ropes and Wires Uint

1. Dismantle:



- Lubricating Pipe ①

  (beside the lubricating box)

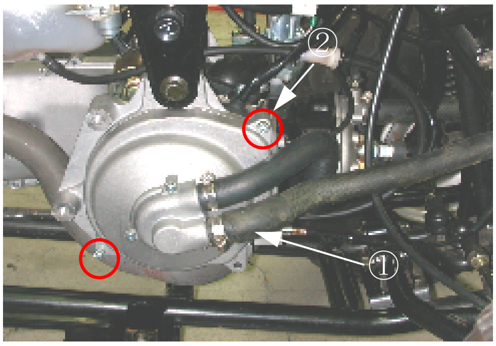
- High-Voltage Wires ②

- Power Line of Thermal Switch ③

Notes:

Clog the lubricating pipe ① and the openness of the lubricating box in order to prevent lubricants from flowing.

2. Dismantle:

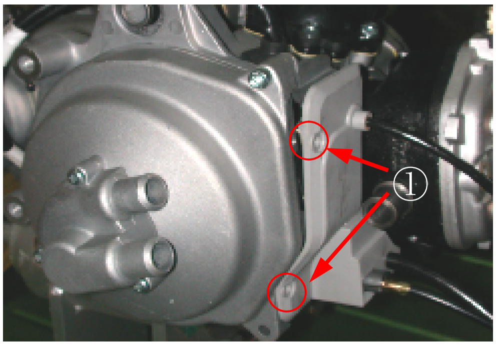


- Cooling Water Pipes ①

  Connecting Water Tank to Engine

- Generator Housing ②

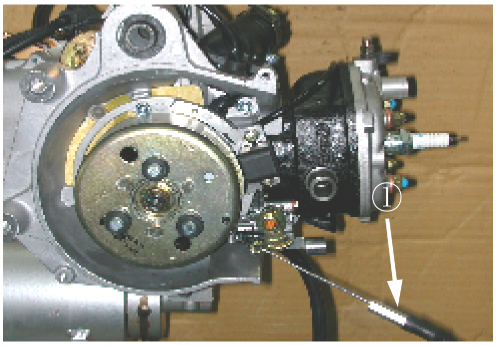
3. Dismantle:



- Lubrication Pump Housing ①

4. Dismantle:

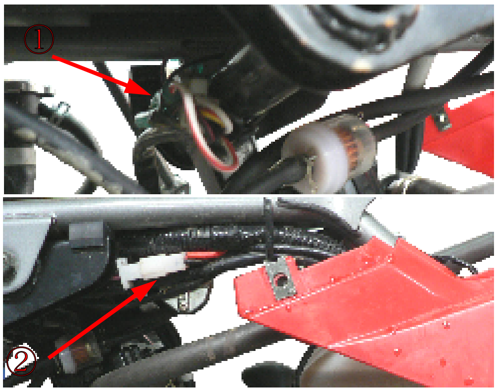
- Lubrication Pump Wire Rope ①



Dismantlement of Engine

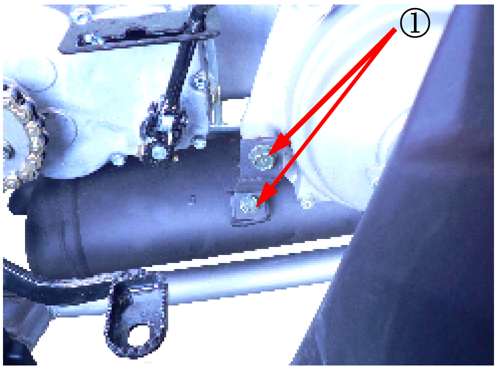
5. Dismantle:

- CDI Generator Wires Unit①
- Starting Motor Wires Unit②



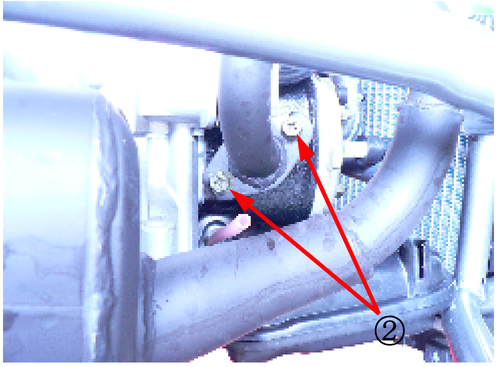
6. Dismantle:

- Fixing Screws of Exhaust Pipe ①
- Fixing Screws behind Exhaust Pipe ②



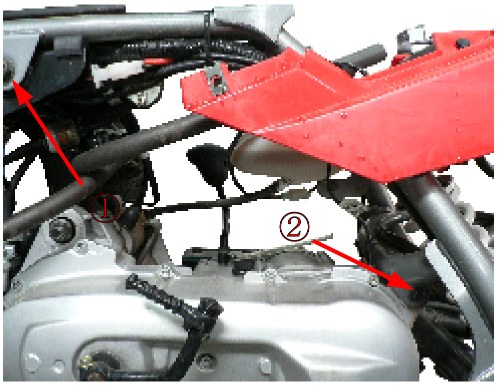
Notes:

Pay attention to the temperature of the exhaust pipe.



7. Dismantle:

- Engine ①②



Dismantlement of Engine

Cylinder Head, Cylinder and Piston

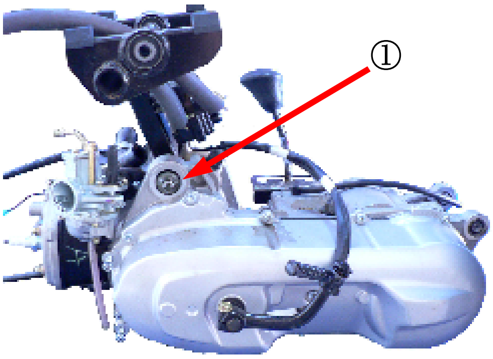
Notes:

Inspect and repair the cylinder head, cylinder and piston by removing the following parts without dismantling the engine:

- Covers
- Food Pedal
- Carburetor

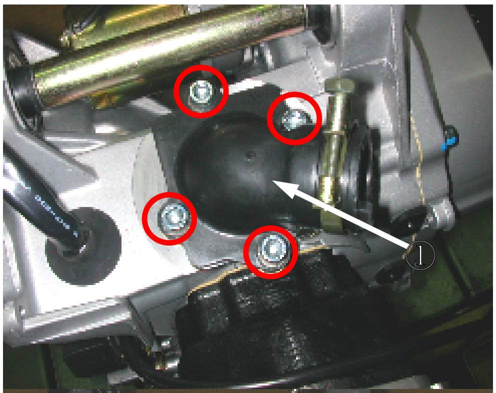
1. Dismantle:

- Engine Mount ①



2. Dismantle:

- Intake Manifold ①
- Leaf Valve
- Gaskets

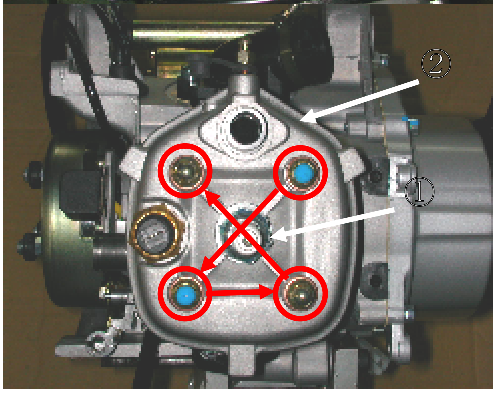


3. Dismantle:

- Spark Plug ①
- Cylinder Head ②
- Gaskets

Notes:

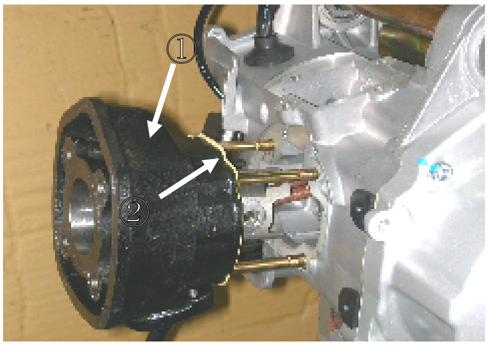
- Loosen the nuts across
- Loosen each nut by ¼ circle and take down after loosing all nuts.



Dismantlement of Engine

4. Dismantle:

- Cylinder ①
- Gaskets of Cylinder ②

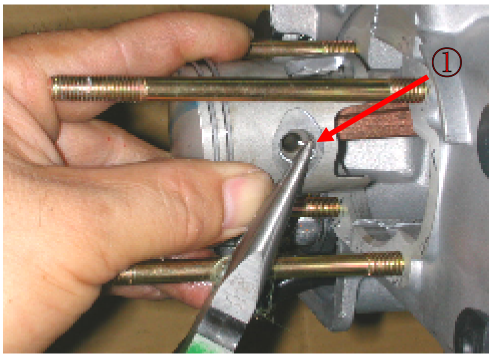


5. Dismantle:

- Grip Ring for Piston Pin ①

Notes:

Clog the opening of the crankcase with dried textile to prevent the grip ring ① from slipping into the case.



6. Dismantle:

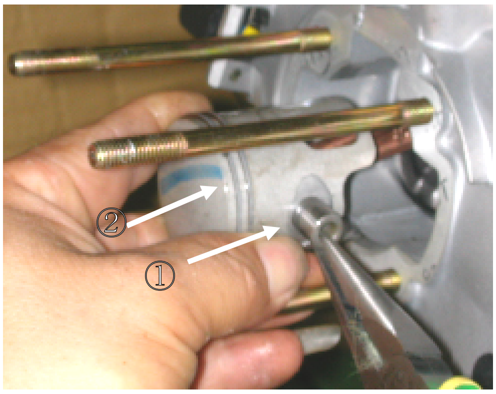
- Piston Pin ①
- Piston ②
- Bearings on Small End

Notes:

Remove the collected carbons from the grip ring groove and the pin hole before dismantling the piston pin to make the operation easy.

Notes:

A hammer is prohibited for dismantlement of the piston pin.



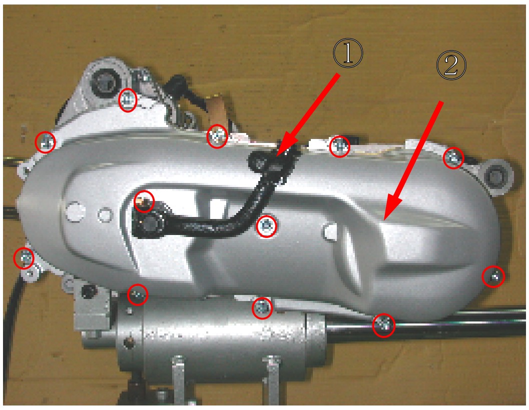
Dismantlement of Engine

Foot Shaft, Main and Counter Grooved Wheel and V-Belt

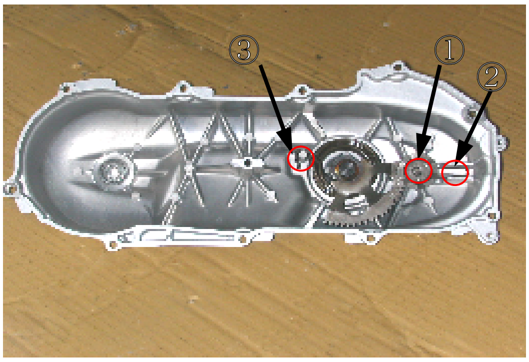
Notes:

Inspect and repair the foot shaft, main and counter grooved wheel and V-belt without dismantling the engine and any part.

1. Discharge the gear oil.
2. Dismantle:
   - Foot Lever ①
   - Crankcase Cover (Left) ②
   - Anchor Pin

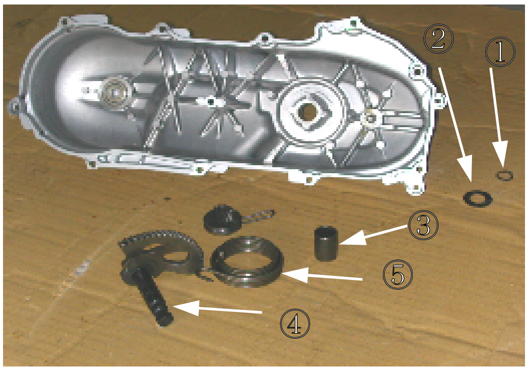


3. Dismantle:
   - Foot Small Gears ①
   - Clamp ②



4. Take down:
   - Extension Springs ③

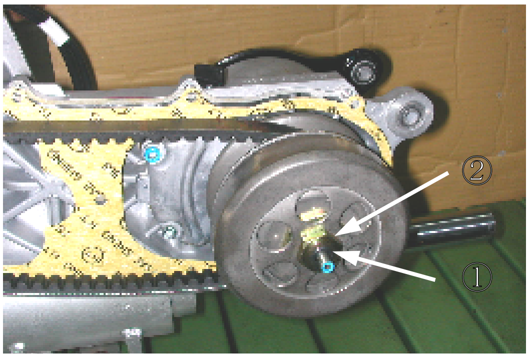
5. Dismantle:
   - Grip Ring ①
   - Plain Washer ②
   - Sleeves ③
   - Foot Shaft Assembly ④
   - Plain Washer ⑤



6. Dismantle:
   - O-Type Oil Ring ①
   - Nuts for Clutch Hub ②

Notes:

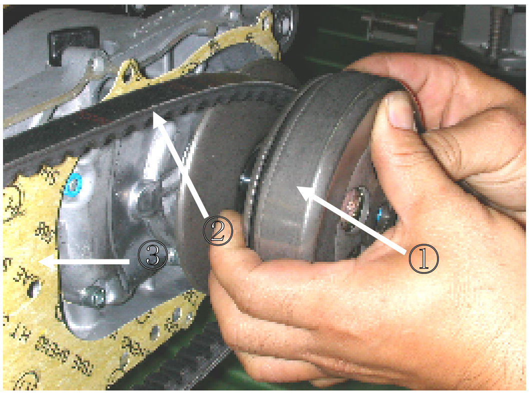
Use Pneumatic tools to dismantle.



Dismantlement of Engine

7. Dismantle:

- Counter Grooved Wheel Assembly ①
- V-Belt ②
- Gaskets ③

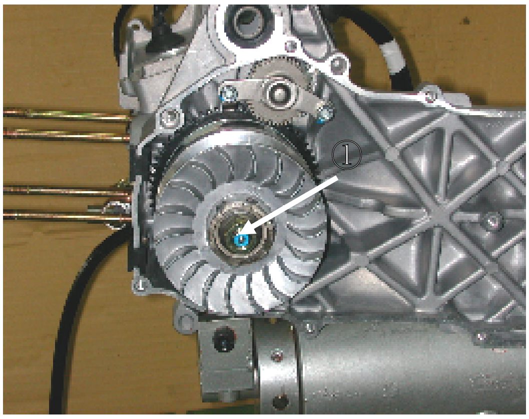


Notes:

As shown in the picture, push with hands the counter grooved wheel assembly to remove the wheel assembly and the V-belt together.

8. Dismantle:

- Nuts for Main Grooved Wheel ①



Notes:

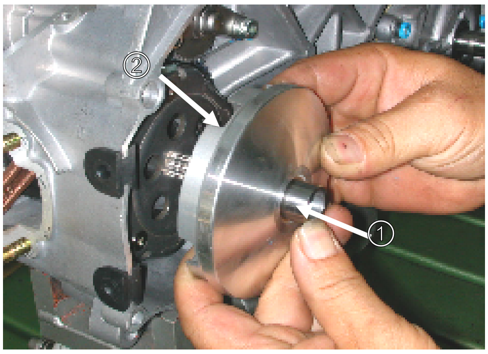
Use Pneumatic tools to dismantle.

9. Dismantle:

- Fastigiate Spring Gasket ①
- One Way Clutch ②
- Gasket ③
- Main Fixing Grooved Wheel ④
- Plain Washer ⑤

10. Dismantle:

- Axle Collar
- Main Sliding Grooved Wheel



Notes:

Hold the cam and grooved wheel together to prevent the counter-weight balls from dropping.

Dismantlement of Engine

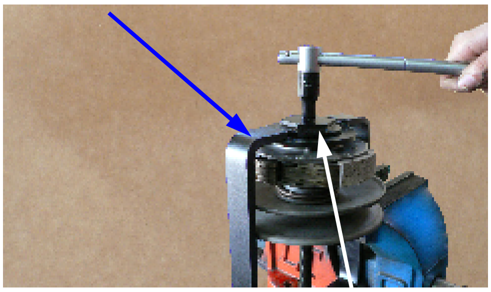
11. Loosen:

- Nuts

Warnings:

Nuts shall not be dismantled unless the counter grooved wheel is compressed and fixed to prevent the grooved wheel from springing out.

Clutch Spring Compressor



Lock Nut Wrenchr

12. Dismantle:

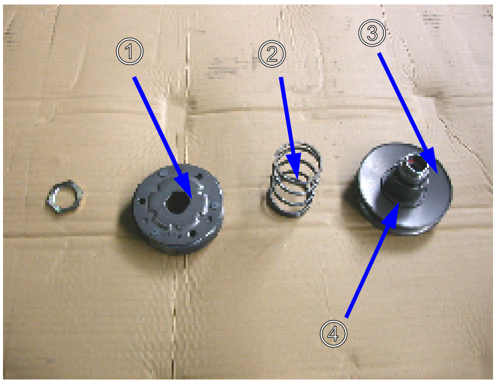
- Nuts for Clutch Carrier

Notes:

Compress and fix the counter grooved wheel with a torque tool.

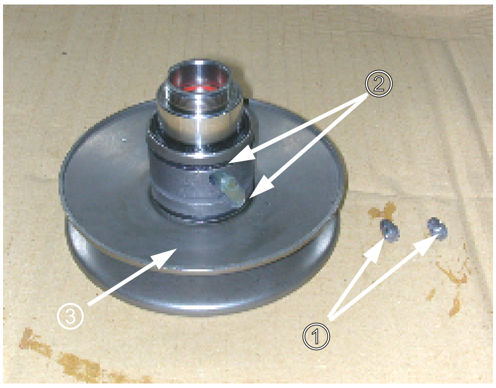
13. Dismantle:

- Clutch Carrier ①
- Pressure Spring ②
- Counter Grooved Wheel ③
- Spring Seat ④



14. Dismantle:

- Guide Pin ①
- O-Type Oil Ring ②
- Counter Sliding Grooved Wheel ③



Dismantlement of Engine

Starting Clutch

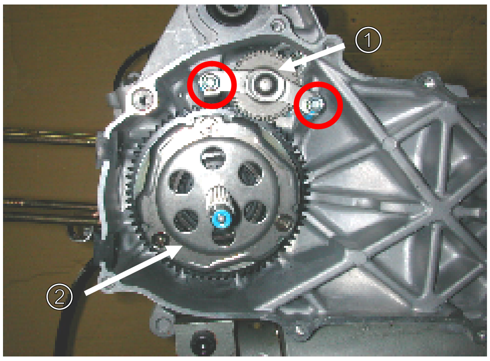
Notes:

Inspect and repair the starting clutch by removing the following parts without dismantling the engine:

- Left Crankcase Cover
- V-Belt
- Main and Minor Grooved Wheels

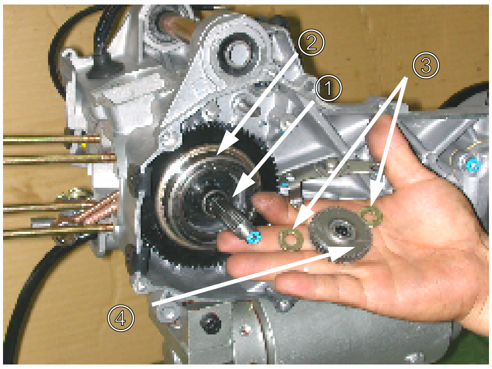
1. Dismantle:

- Gear Idle Plate ①
- Starting Clutch ②



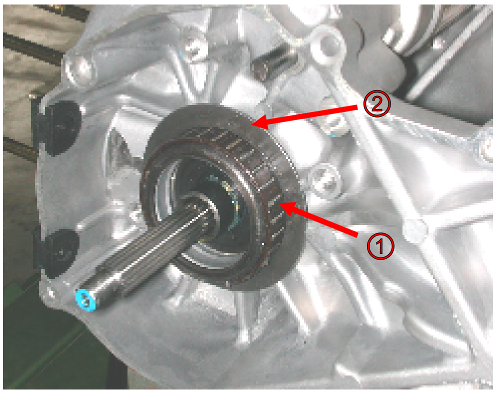
2. Dismantle:

- Axle Collar ①
- Starting Wheel ②
- Washer ③
- Gear Idle ④



3. Dismantle:

- Bearing ①
- Gasket ②



Dismantlement of Engine

CDI Generator

Notes:

Inspect and repair the CDI generator by removing the following parts without dismantling the engine:

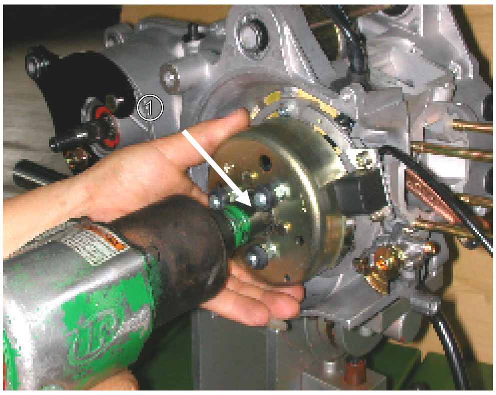
- Covers
- Foot Pedal
- Inlet eye of Cylinder

1. Dismantle:

- Nuts for Rotor ①
- Plain Washer

Notes:

Use Pneumatic tools to dismantle.

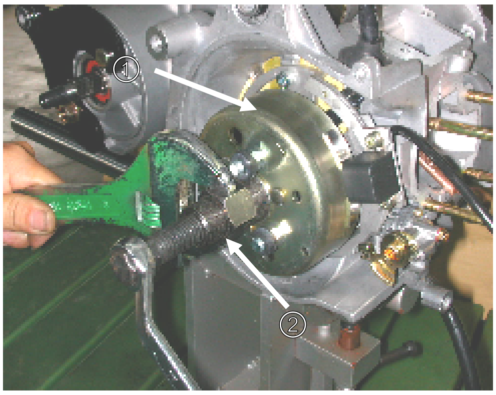


2. Dismantle:

- Rotor ①

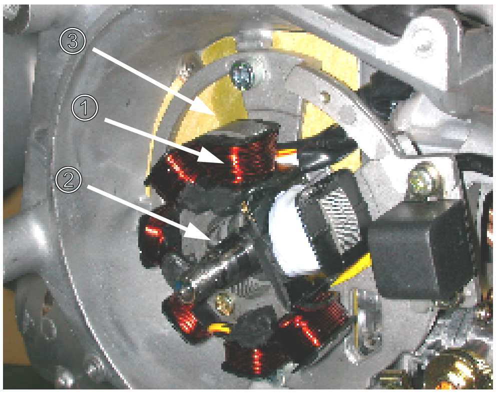
Notes:

Remove the rotor with a flywheel drawer ②



3. Dismantle:

- Armature Assembly ①
- Semi-Round Key ②
- Gasket ③



Dismantlement of Engine

Lubrication Pump

Notes:

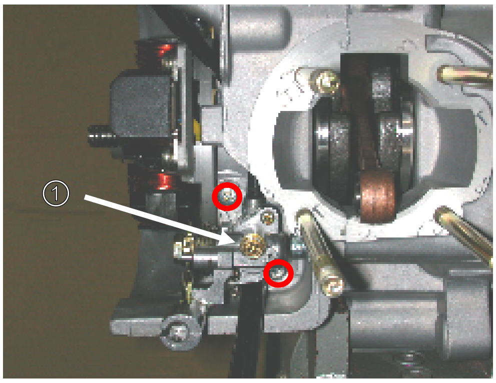
Inspect and repair the lubrication pump by removing the following parts without dismantling the engine:

- Covers
- Foot Pedal
- Air Filter
- Inlet Eye of Cylinder
- Wire Rope of Lubrication Pump

---

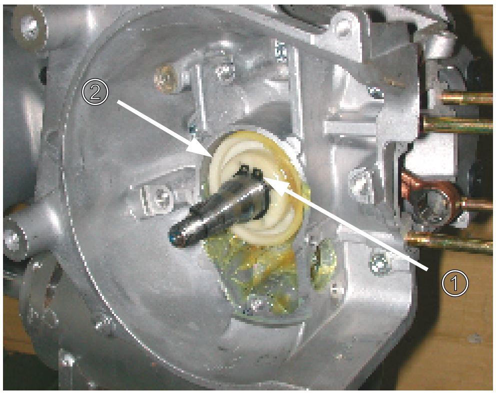
1. Dismantle:

- Lubrication Pump ①



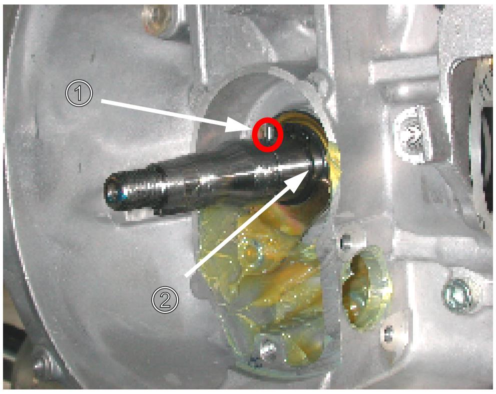
2. Dismantle:

- Clip Link ①
- Drive Gear ②



3. Dismantle:

- Anchor Pin ①
- Clip Link ②



Dismantlement of Engine

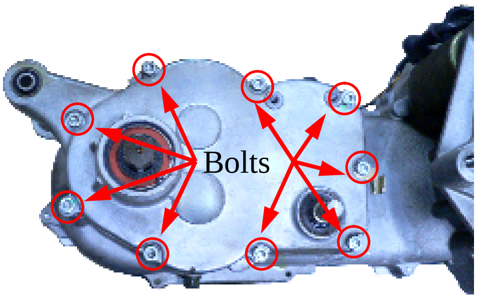
Driving Mechanism

Notes:

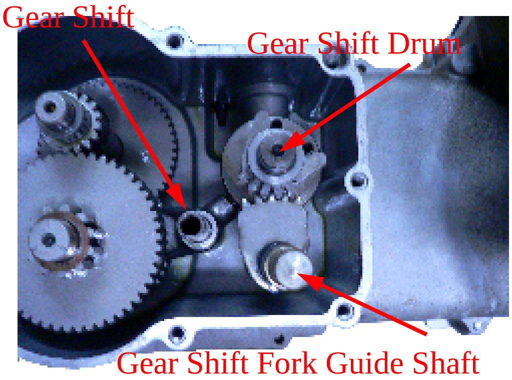
Inspect and repair the driving mechanism by removing the following parts without dismantling the engine:

- Left Crankcase Cover
- Main and Counter Grooved Wheel
- Ⅴ-Belt

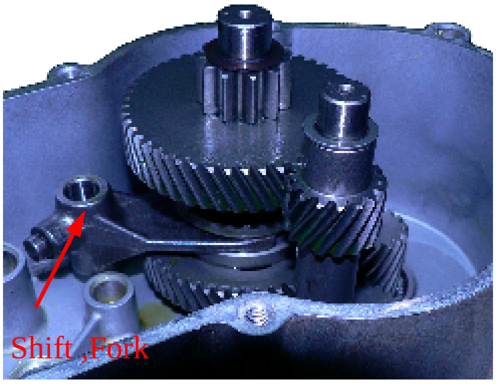
Remove the 9 bolts.



Remove gear shift drum.Gear shift fork guide shaft.Gear shift guide shaft.

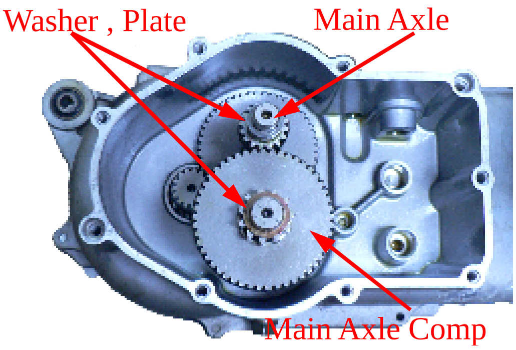

Gear Shift
Gear Shift Drum
Gear Shift Fork Guide Shaft

Remove shift fork.

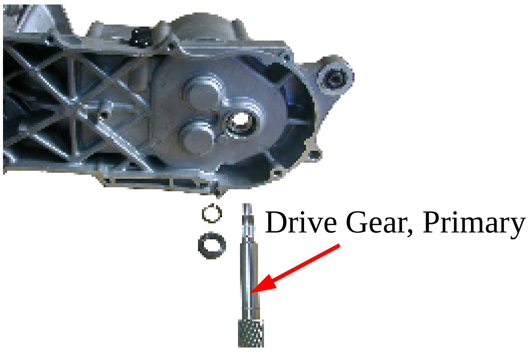


Dismantlement of Engine

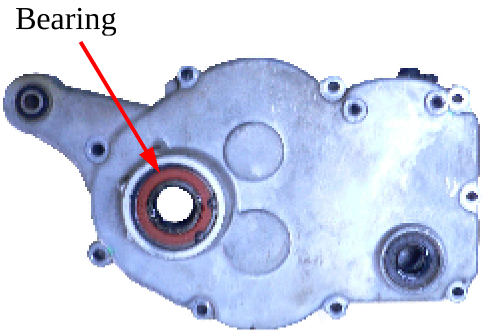
Remove washer plate、 main axle comp、 main axle.

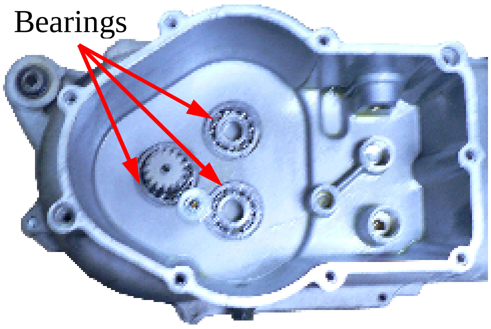

Washer , Plate
Main Axle
Main Axle Comp

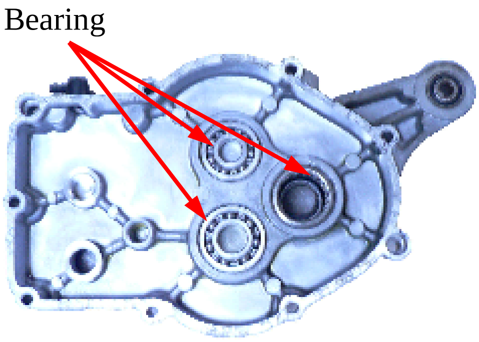
Remove drive gear primary.


Drive Gear, Primary

Check all the bearing are normal, if not, change to new parts

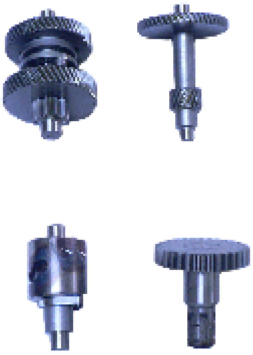






Dismantlement of Engine

Check all the gear operation are normal, if not, change to the new parts.



Install the brake pad as the reverse process.

NOTS：

Install gear shift fork guide shaft、gear shift drum

need to line up to the 3rd tooth of the gear

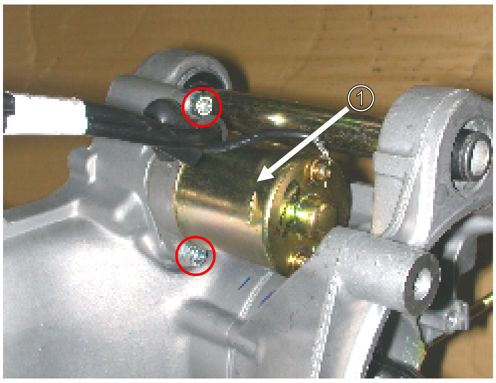
Dismantlement of Engine

Starting Motor

Notes:

Inspect and repair the starting motor by removing the following parts without dismantling the engine:

- Exhaust Pipe Assembly
- Rear Wheel



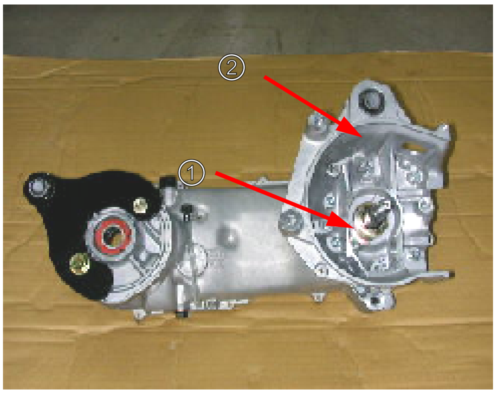
1. Dismantle:

- Starting Motor①

Crankcase (Right)

1. Dismantle:

- Screws M6x35
- Oil Seal Blocking Sheet ①

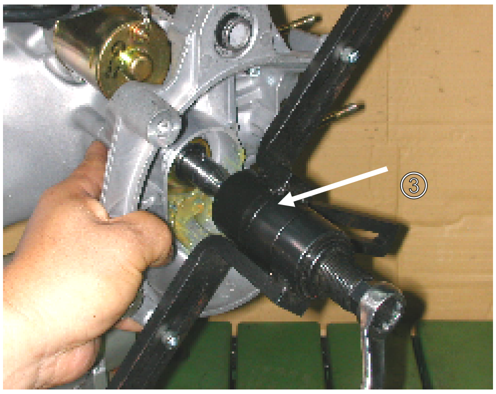


2. Dismantle:

- Crankcase (Right) ②

Notes:

Loosen each nut by ¼ circle and take down after loosing all nuts.



Process of Crankcase Dismantlement:

- Install crankcase dismantlement tools ③

Notes:

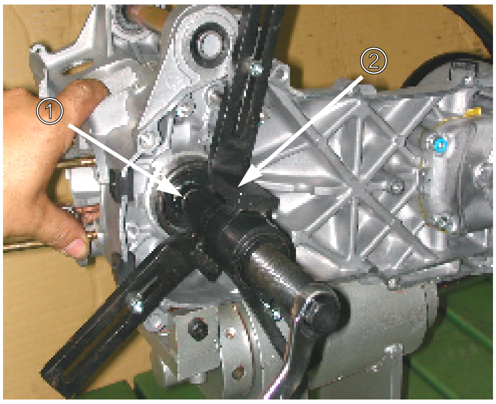
Lock the screws of the tool and make it paralleled to the crankcase. Loosen slightly one fixing screw when necessary in order to adjust the tool to parallel.

Dismantlement of Engine

- Constantly tap each installation base of the engine in turn during dismantlement operation and then remove the right crankcase.
- Tap each strengthening part of the crankcase with a plastic hammer.
- Don’t tap the gasket of the crankcase.
- Pay attention to the dismantlement.
- Remove the right as well as the left crankcases completely. Take down the dismantlement tool and reinstall it if the right or the left crankcase doesn’t have been removed completely. Don’t dismantle the crankcases by force but check if screws haven’t been unfastened.

3. Dismantle:

- Crank Shaft ①



Notes:

- Remove the crank shaft with the crankcase dismantlement tool②.
- Lock the screws of the tool and make it paralleled to the crankcase. Loosen slightly one fixing screw when necessary in order to adjust the tool to parallel.

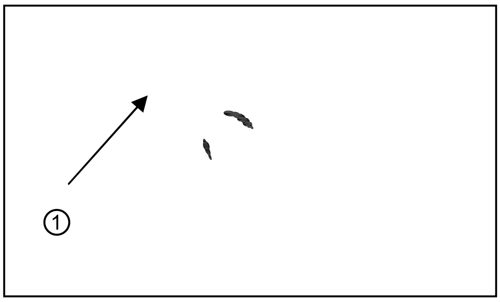
Inspection and Repair

Cylinder Head

1. Remove:

- Collected carbon from the combustion

  chamber with a scraper①



Notes:

Don't use pointed tools in order to prevent the spark plug installation teeth from being damaged or scratched.

2. Inspect:

- Cylinder Head

  Replace it in case of any scratch or damage

3. Measure:

- Warpage

  Adjust it in case of any inconformity

  Warpage Limit: 0.03mm

****

Measuring Steps:

- Put an angle square① on the cylinder head and measure the Warpage with a thickness gauge②.
- Adjust the cylinder head in case of inappropriate Warpage.

****

4. Finish

- Cylinder Head

****

Repair Steps:

Put a sand paper #400~600 on a flat face and finish the cylinder head on it at an order like 8.

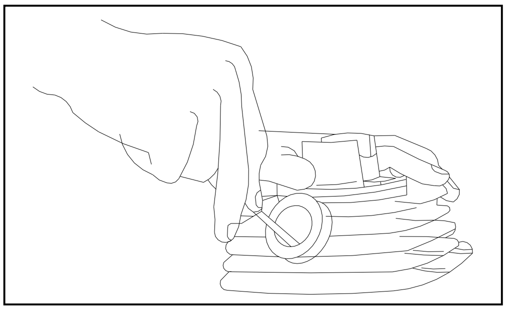
Notes:

Rotate the cylinder head to finish it in order to avoid much abrasion of one edge of the cylinder head.

****

Inspection and Repair

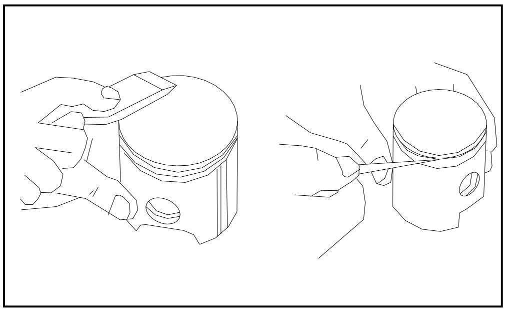
Cylinder and Piston



1. Remove:
   - Collected carbon with round-headed scrapper

Notes:

Don’t use pointed tools in order to prevent damage or scratch.



2. Inspect:
   - Cylinder Wall

     Hone or replace it in case of any abrasion or scratch.

3. Remove:
   - Collected carbon from the piston crown and the ring grooves.
   - Piston Crown

     Replace it in case of any scratch or damage.

5. Remove:
   - scratch or collected carbon from the piston walls with sand paper #600~800

Notes:

Remove it across and avoid over attrition.

6. Inspect:
   - Piston Walls

     Replace it in case of any abrasion, scratch or damage.

Inspection and Repair

7. Measure:

- Clearance between piston and cylinder

****

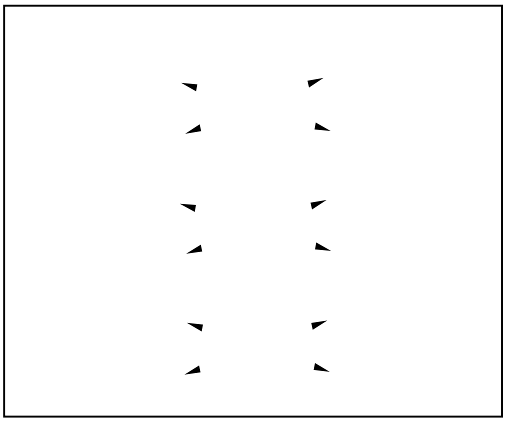
Measuring Steps:

Step 1:

- Measure the C value of the cylinder with a cylinder gauge.

Notes:

Parallel the cylinder gauge to the crank shaft at a right angle and then measure the average value.



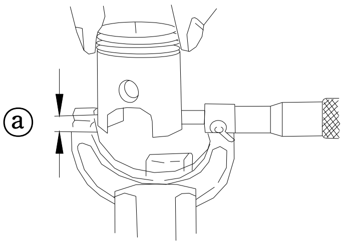
	Reference Value	Wear Limit
C Value of Cylinder	53.993~54.112mm	54.93~54.012mm
	51.993~52.112mm	52.93~52.012mm
	49.993~50.112mm	50.93~50.012mm
	39.993~40.112mm	40.93~40.012mm
Taper (T)	-----	0.05mm
Out-of Round (R)	-----	0.006mm
If C=D, the max.: T: (max. of D1 or D2)—(max. of D5 or D6) R: (max. of D1, D3 or D5)- (max. of D2, D4 or D6)		

- Hone or replace the cylinder, the piston and the piston ring in case of any inconformity.

Step 2:

- Measure the P value of the skirt section of the piston with a micrometer caliper.

  ⓐ5mm shall be started from the bottom of the piston.



Piston Size “P”:

Standard Size: 53.958~53.972mm
51.958~51.972mm
49.958~49.972mm
39.958~39.972mm

- Replace the piston and the piston ring in case of any inconformity.

Inspection and Repair

Steps 3:

- Calculate the clearance between piston and cylinder according to the following formula:

Clearance to Cylinder:

C value of Piston to Cylinder P value of skirt section of the clutch

- Hone or replace the cylinder, the piston and the piston ring in case of any inconformity.

Clearance between Piston and Cylinder: 0.035~0.040mm

Upper Limit: 0.1mm

****

Piston Ring

1. Measure:

- Side Clearance
  Replace the piston in case of any inconformity

  or/and measure it with a thickness gauge①.

Side Clearance:
Top Ring: 0.03~0.05mm
2nd Ring: 0.03~0.05mm

2. Install:

- Piston into the cylinder

Notes:

Put the piston ring into the cylinder and press it down with the piston crown in order to make it vertical to the cylinder walls.

3. Measure:

- Tip Clearance
  Replace it in case of any inconformity

  Measure it with a thickness gauge①.

Tip Clearance:
Top Ring: 0.15~0.35mm
2nd Ring: 0.15~0.35mm

Inspection and Repair

Piston Pin and Bearing

1. Inspect:

- Piston Pin

  Replace it in case of any burn or scratch and examine the lubricating system.

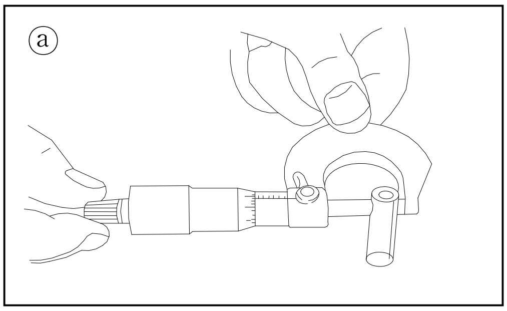
2. Measure:

- External Diameter of the Piston Pin

  Replace it in case of any inconformity.

  ED (Piston Pin)ⓐ:

  9.996~10.000mm



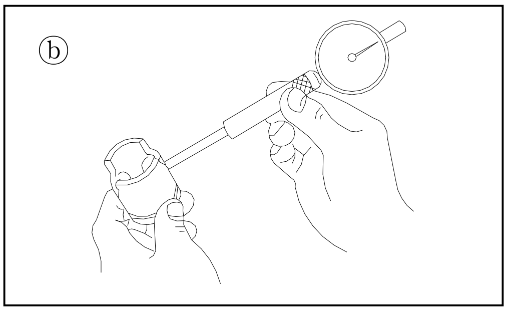
3. Measure:

- Clearance between Piston Pin and Piston.

  Replace it in case of any inconformity.

Clearance between Piston Pin and Piston:

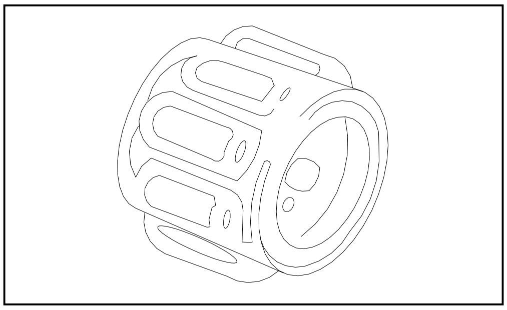
0.008~0.015mm



4. Inspect:

- Bearing of the Piston Pin

  Replace it in case of any deformation or damage.



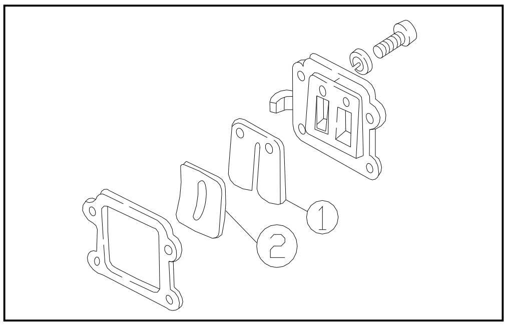
Leaf Valve

1. Inspect:

- Leaf Valve ①

- Leaf Valve Stopper ②

  Replace it in case of any crack or damage.



Inspection and Repair

Foot Shaft

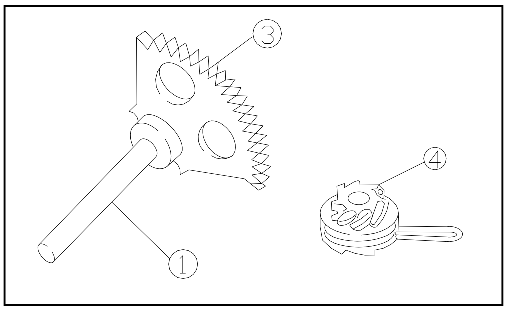
1. Inspect:

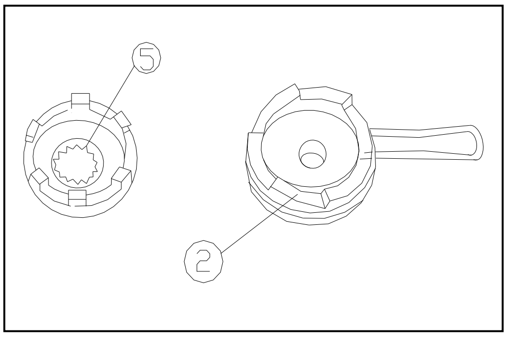
- Foot Shaft ①

  Replace it in case of any abrasion or damage.
- Return Spring

  Replace it in case of any crack or damage.
- Nail Groove (Foot Small Gear) ②
- Gear Teeth③of Foot Shaft
- Foot Small Gear Teeth④
- Toothed Fact of One Way Clutch⑤

  Replace it in case of any abrasion or damage.





2. Measure:

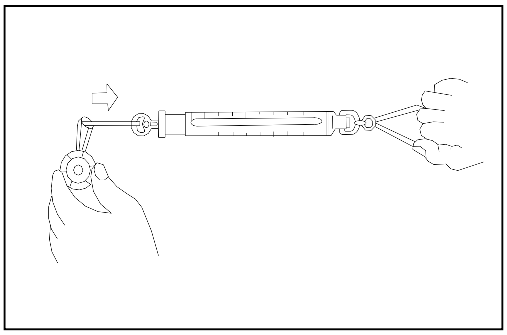
- Clamp Tension ← (Foot Small Gear)

  Replace it in case of any inconformity.

  Measure it with a spring balancer.

Clamp Tension:

150~250g



Clutch

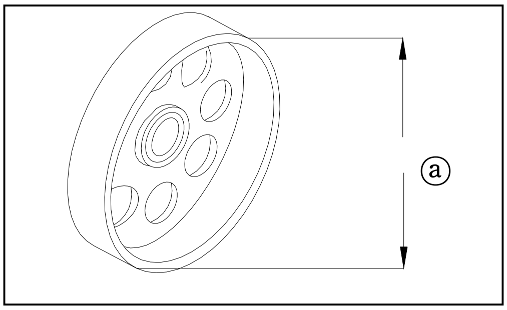
1. Inspect:

- Inside walls of the clutch hub

  Replace it in case of any scratch or rust.

  Polish the inside walls with emery clothes in case of any scratch.

2. Measure:



- ID of the clutch hubⓐ

  Replace the hub in case of any inconformity.

ID (Clutch Hub):

112.0mm

(Abrasion Limit):

112.3mm

Inspection and Repair

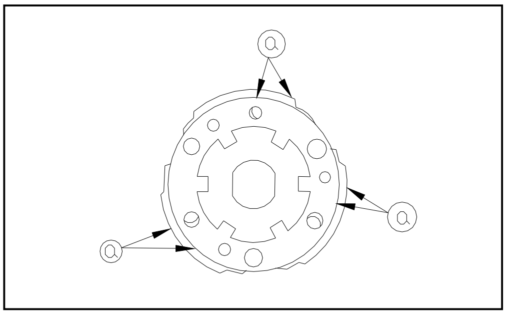
3. Inspect:

- Clutch Block

  Polishing Parts→rub it with rough sand papers.

Notes:

Wipe the clutch up with a clean textile after rubbing.



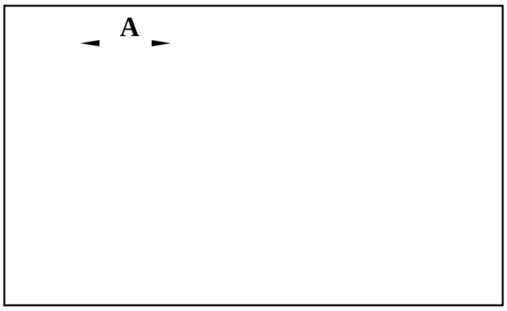
4. Measure:

- Thickness of ⓐ of the clutch block

  Replace it in case of inconformity

Thickness of Clutch Block: 2mm

(Abrasion Limit): 1mm



5. Measure:

- Flexible Length of the Clutch Balance

  Weight Spring (Balance Weight Spring)ⓐ

  Replace it in case of any inconformity.

Flexible Length (Balance Weight Spring)ⓐ:

29.9mm

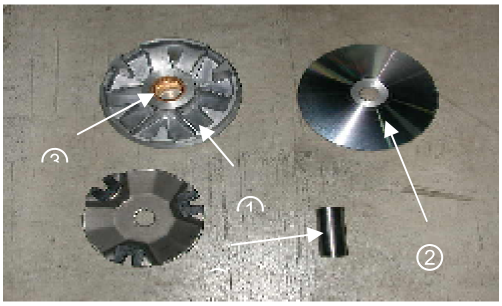
6. Inspect:

- Clutch Block Movement

  Replace it in case of any unsmooth ness.

Main Grooved Wheel

1. Inspect:



- Main Sliding Grooved Wheel①
- Main Fixing Grooved Wheel②
- Shaft Sleeves ③of Sliding Grooved Wheel
- Shaft Ring ④

Replace it in case of any abrasion, crack, scratch or damage.

Inspection and Repair

2. Inspect:

- Free Movement

Put the shaft ring①into the main sliding

grooved wheel② to test the free movement.

Replace the grooved wheel or the shaft ring in case of getting stuck or loosen.

3. Inspect:

- Ball Bearings

Replace them in case of any damage

4. Inspect:

- ED of Ball Bearings

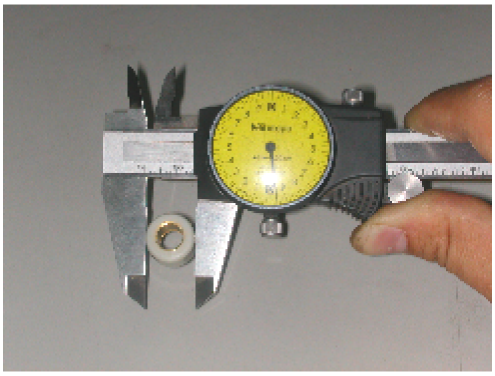
Replace them in case of any inconformity.

ED of Balance Weight : 15.0mm

(Limit) :14.5mm

A: Worn Parts

B: Measurement Points

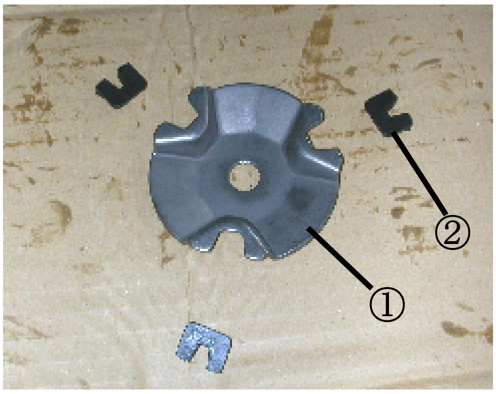


5. Inspect:

- Cam① of Main Grooved Wheel

- Sliding Fittings②

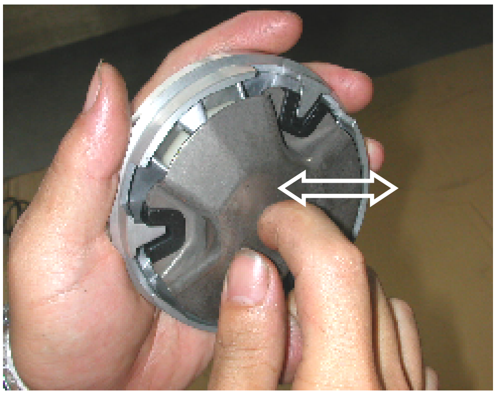
Replace them in case of any abrasion or damage.



6. Inspect:

- Cam Movement Situation

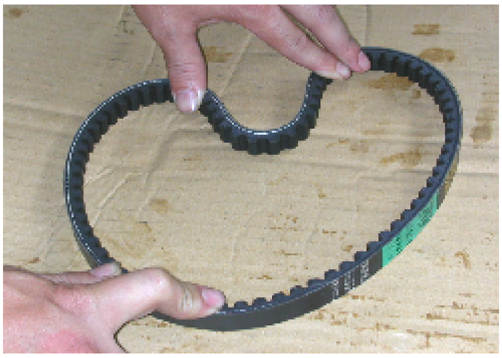
Repair in case of any unsmoothness.



Inspection and Repair

V-Belt

1. Inspect:



- V-Belt

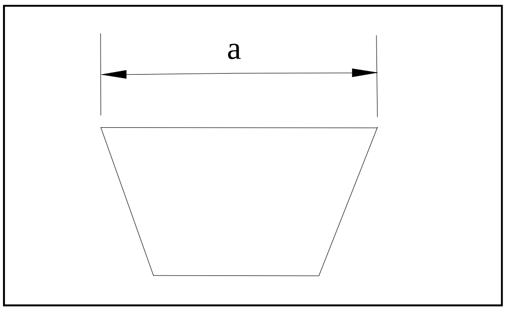
  Replace it in case of any crack, abrasion, off-line and gap.

  Replace it in case of any oil remains.

2. Measure:

- Width of V-Belt ⓐ

  Replace it in case of any inconformity.



Width of V-Belt: 16.6mm

(Limit): 14.6mm

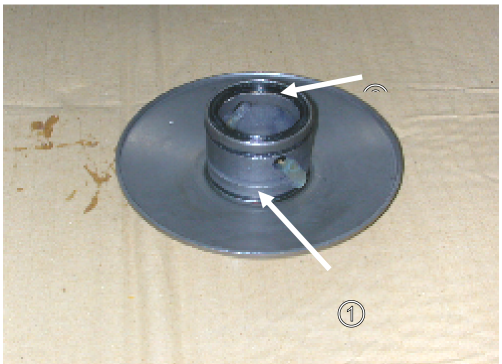
Notes:

Measure each poison of the V-belt.

Counter Grooved Wheel

1. Inspect:

- Counter Grooved Wheel (Fixed)
- Counter Grooved Wheel (Movable) ①
- Oil Seal②

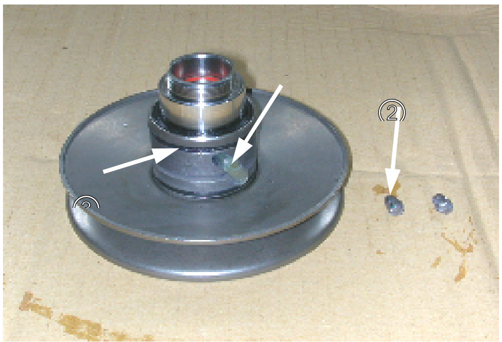


Replace the set in case of any scratch, crack or damage.

2. Inspect:

- Torque Guide Channel①
- Guide Pin②

  Replace the set in case of any abrasion or damage.



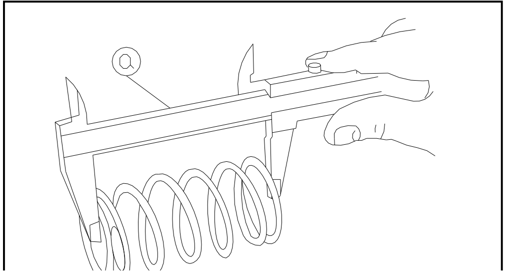
3. Inspect:

- Movement of the Sliding Grooved Wheel

  Replace the set in case of any unsmoothness.

4. Measure:

- Spring Flexible Length (Counter Grooved Wheel)



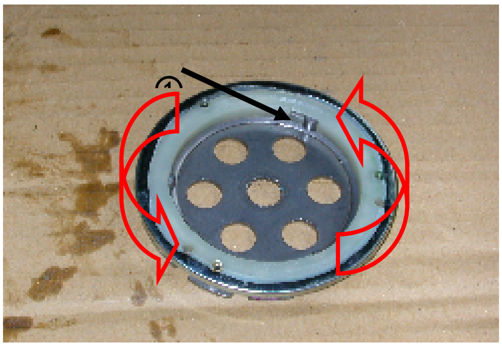
Replace it in case of any inconformity.

Flexible Length (Counter Grooved Wheel)ⓐ: 94.0mm

(Limit): 91.0mm

Inspection and Repair

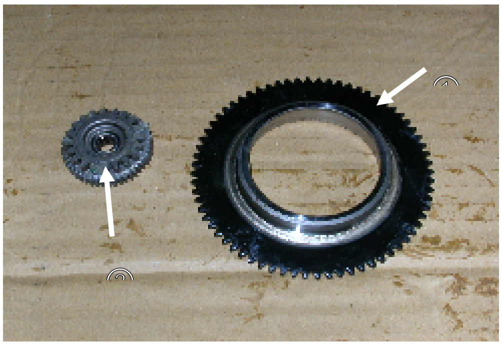
Starting Clutch Gear



1. Inspect:
   - Starting Clutch

     Insert the anchor pin①into the groove and turn it counterclockwise.

     Replace the starting clutch assembly in case of unsuccessful operation.

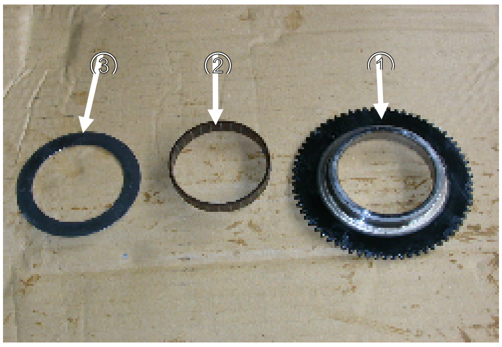


2. Inspect:
   - Starting Gear Teeth①
   - Gear Idle Teeth②

     Replace them in case of any burn, deformation, abrasion or gap.

3. Inspect:
   - Contact Surface (Starting Wheel) ①
   - Contact Surface (Bearing) ②
   - Gasket③

     Replace them in case of any falling or damage.

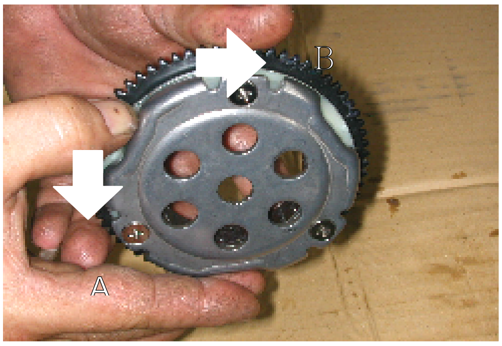


4. Inspect:
   - Operation of the Starting Clutch

****

Steps:

- Install the starting wheel on the starting clutch and then make the clutch not to move.
- Turn the starting wheel counter clockwise to where marked A, and the wheel and the clutch get stuck. Their failure to get stuck indicates the clutch is damaged, so replace it.
- Turn the starting wheel clockwise to where marked B, and the wheel and the clutch can move individually. The failure indicates the clutch is damaged, so replace it.



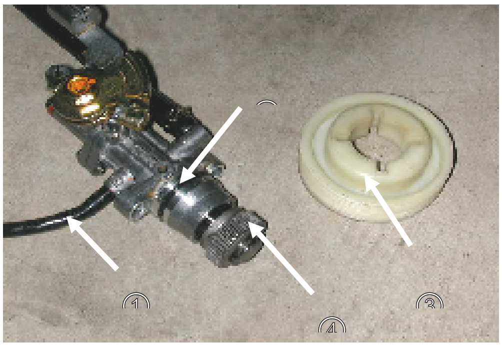
****

Inspection and Repair

Lubrication Pump

Its abrasion and inside troubles may make the lubricant output inconsistent to the designed figure. Though this case is rare, inspect the following items in case of abnormal lubricant output.

1. Inspect:



- Lubricating Pipe1.2①

  Blow it through or replace it in case of block or crack.

- O-type Oil Ring②

  Replace it in case of any abrasion or damage.

2. Inspect:

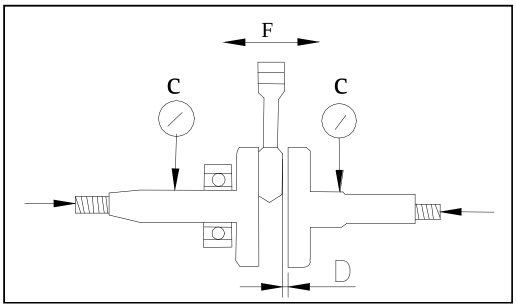
- Driving Gear for the Lubrication Pump③
- Driven Gear for the Lubrication Pump④

  Replace it in case of any falling, abrasion and damage.

Inspection and Repair

Crank Shaft

1. Measure:



- ● Out-Of-Round "C"
- ● Side Clearance "D" of the big end of the connecting rod
- ● Free clearance limit "F" of the small end of the connecting rod.

  Replace it in case of any inconformity.

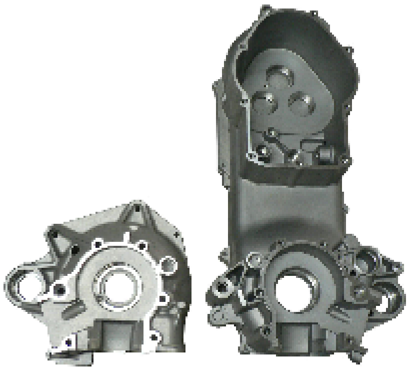
  Measure the values above with V-type bearing seat, micrometer and thickness gauge.

Limit of Out-of-Round "C": 0.03mm

Side Clearance "D": 0.2~0.5mm

Free clearance limit "F": 0.4~0.8mm

Crankcase



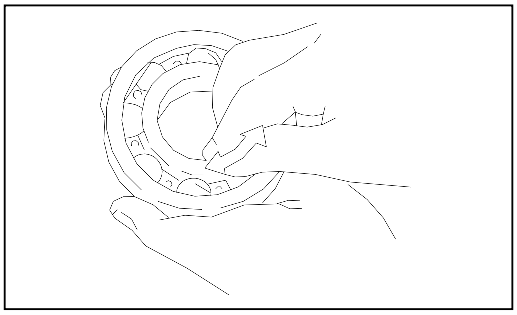
1. Clean the crankcases with neutral solvent.
2. Clean all contact surfaces on the crankcases, including the gasket contact surface and the surfaces of the right and left crankcases.

3. Inspect:

- ● Crankcase

  Replace it in case of any crack or damage.

Bearing and Oil Seal



1. Inspect:

- ● Bearing for Engine

  Rotate the inside edge by hands after being cleaned and lubricated.

  Replace it in case of bad performance.

2. Inspect:

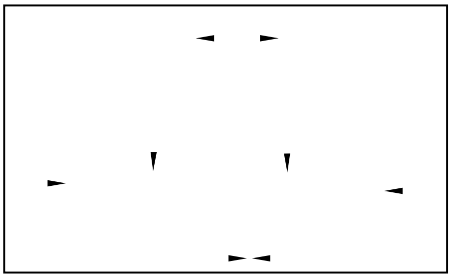
- ● Bearing for Engine

  Replace it in case of any abrasion or damage.

Assembly and Adjustment of the Engine

Crankcase and Crankshaft

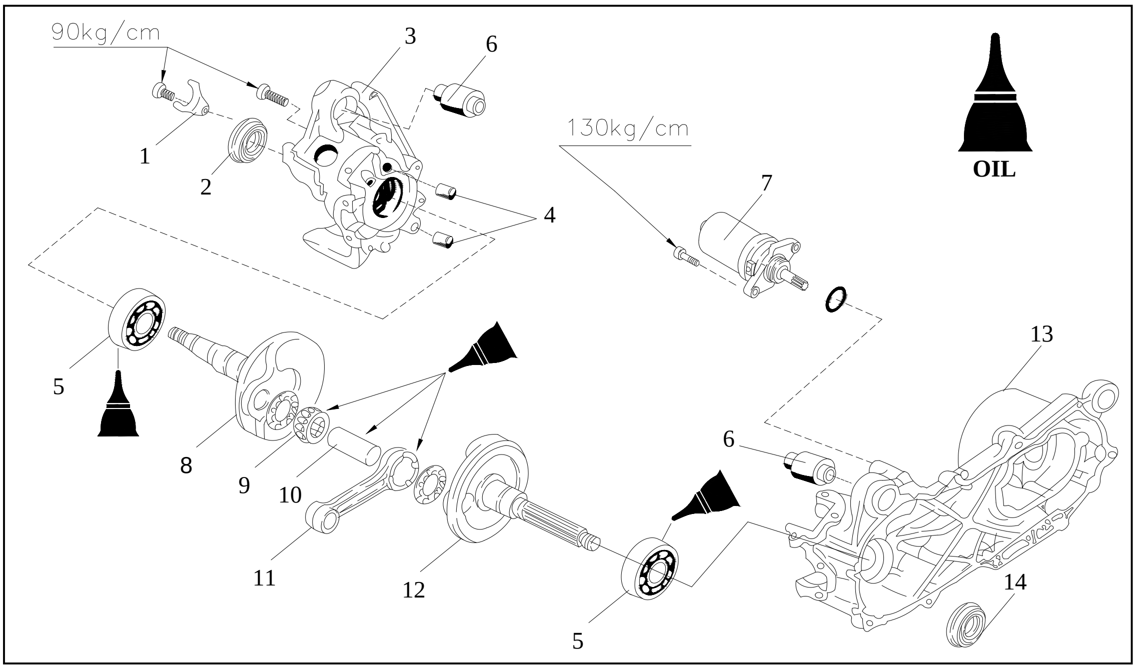
1. Oil Seal Stopper
2. Oil Seal
3. Right Crankcase
4. Anchor in
5. Bearing6204C3
6. Engine Damper Cover
7. Starting Motor
8. Left Crankcase
9. Needle Bearing
10. Crank Pin
11. Connecting Rod
12. Left Crankcase
13. Left Crankcase
14. Oil Seal



C：0.03mm

D ： 0 0.2~0.5mm

E ：0.4~0.8mm


90kg/cm
3
6
1
2
4
130kg/cm
7
OIL
13
5
8
9
10
6
11
12
14
5

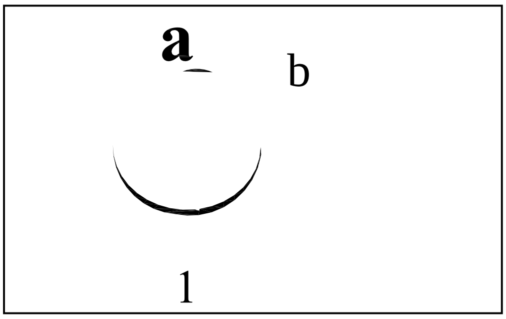
Assembly and Adjustment of the Engine

Crankshaft and Crankcase

Notes:

Lay the lithium soap greases on the oil seal lip in order to make the installation of the crankshaft easy and prevent it from being scratched and lubricate the bearings with engine oils.

1. Install:



- Bearing①

Notes:

Make the signed surfaceⓐ,ⓑof the bearing facing the crankshaft and give a pressure from the exposed part of the bearing to assemble it.

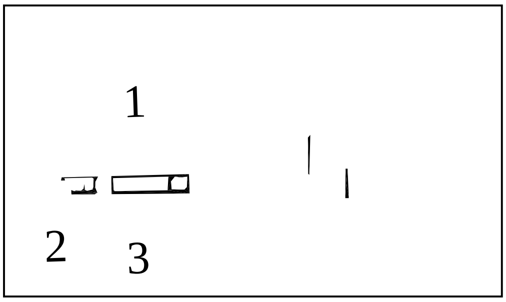
2. Lay:

- Engine oil on the crank bearing

3. Install:

- Crankshaft (to the left crankcase)

4. Install:



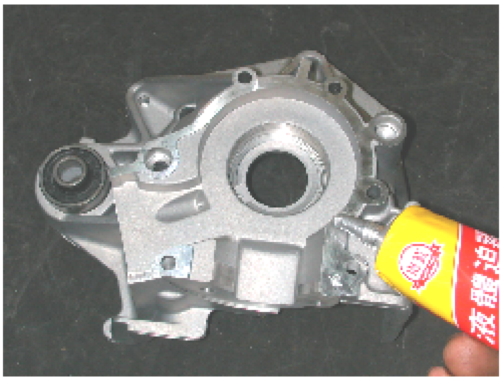
- Crank Assembly Tools
- Crank Assembly Tube①
- Crank Assembly Bolt②
- Crank Assembly Connecting Tube③

Notes:

Make the connecting rod stay at the top stuck point and turn the assembly tool till the lower part of the crankshaft contacts the bearing.

5. Lay:

- Binding agent on the contact surface of the left and right crankcases.



6. Install:

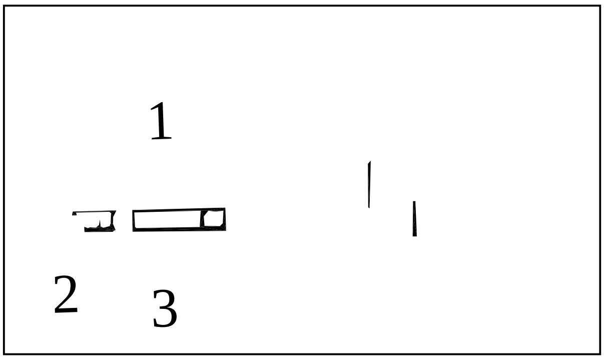
- Anchor Pin

7. Install:

- Crankcase (Right)

8. Install:

- Crank Assembly Tools
- Crank Assembly Tube①
- Crank Assembly Bolt②
- Crank Assembly Connecting Tube③



Notes:

Make the connecting rod stay at the top stuck point and turn the assembly tool till the lower part of the crankshaft contacts the bearing.

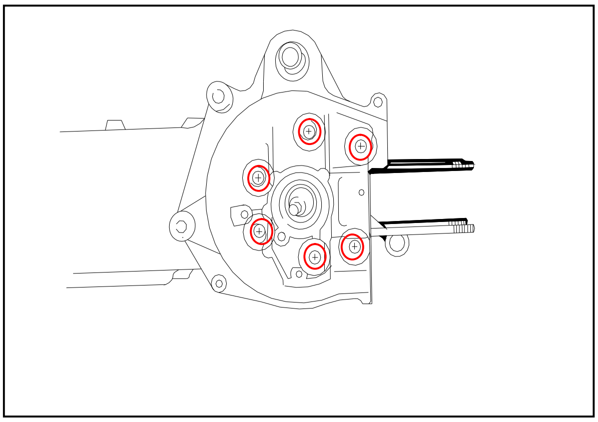
9. Lock:

- Screws(Crankcase)

Notes:

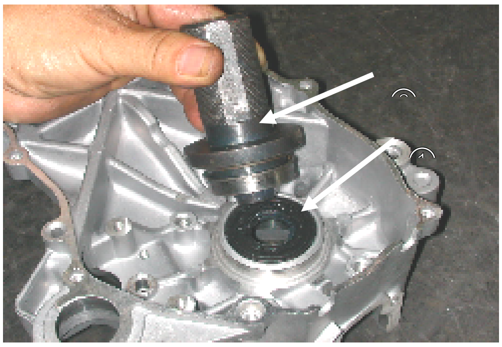
Lock it across.

Screws(Crankcase): 90Kg/cm



Assembly and Adjustment of the Engine

10. Install:



- Oil Seal (Unused)①

  Into the Left Crankcase

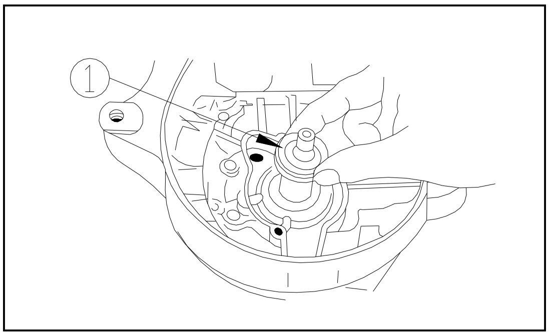
Notes:

- With a oil seal assemble tool②
- Smear the oil seal lip with lithium soap greases.

Notes:

An unused oil seal is required.

11. Install:



- Oil Seal (Unused)①

  Into the Left Crankcase

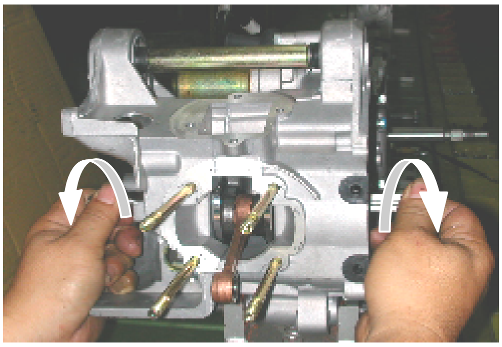
Notes:

Smear the oil seal lip with lithium soap greases.

Notes:

An unused oil seal is required.

12. Inspect:



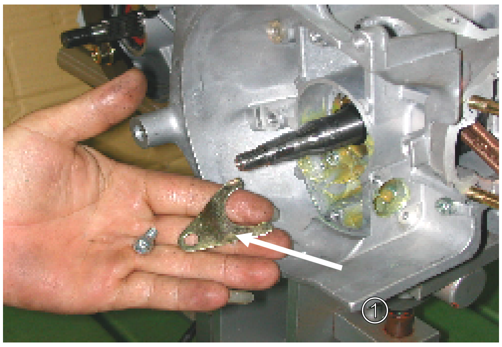
- Operation of the crank shaft.

  Tap with a plastic hammer the crankcase till return to the original point.

Notes:

Do not knock the crack shaft.

13. Install:



- Oil Seal Stopper①

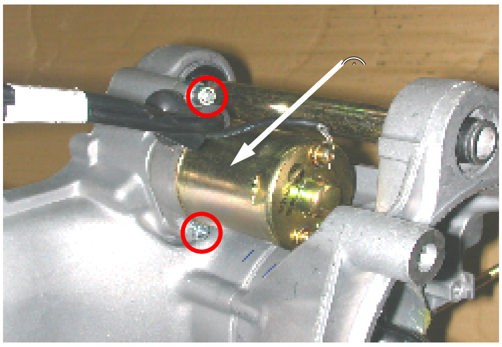
  Screws (Oil Seal Stopper): 90Kg/cm

Assembly and Adjustment of the Engine

14. Install:

- Starting Motor①

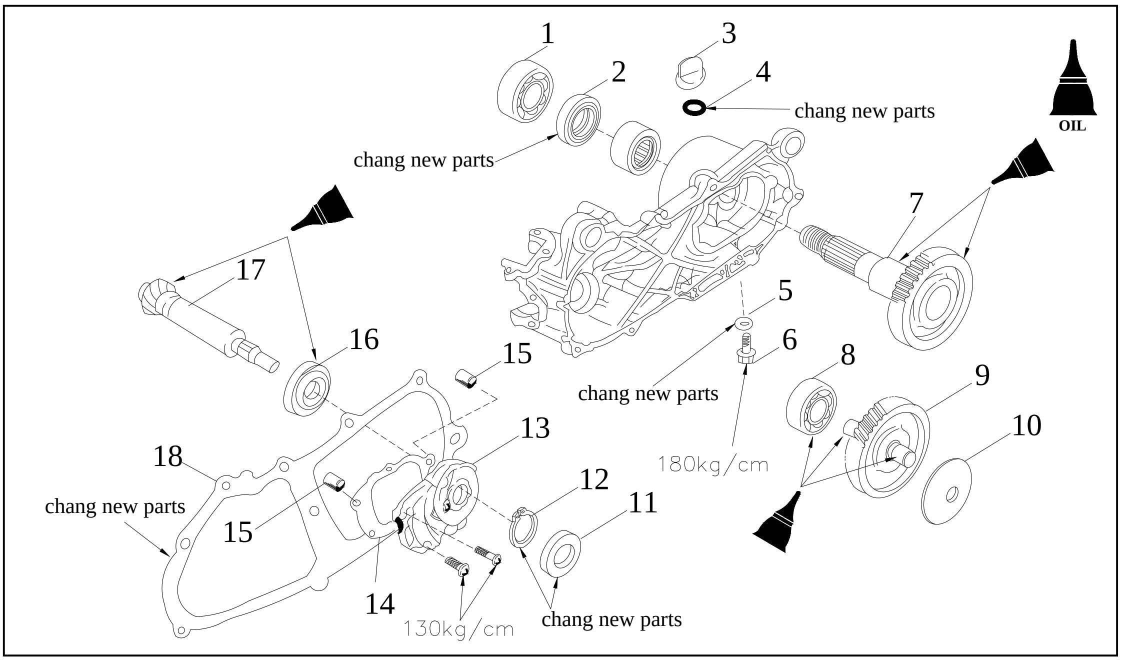
  Bolts (Starting Motor): 130Kg/cm



Assembly and Adjustment of the Engine

Driving Mechanism

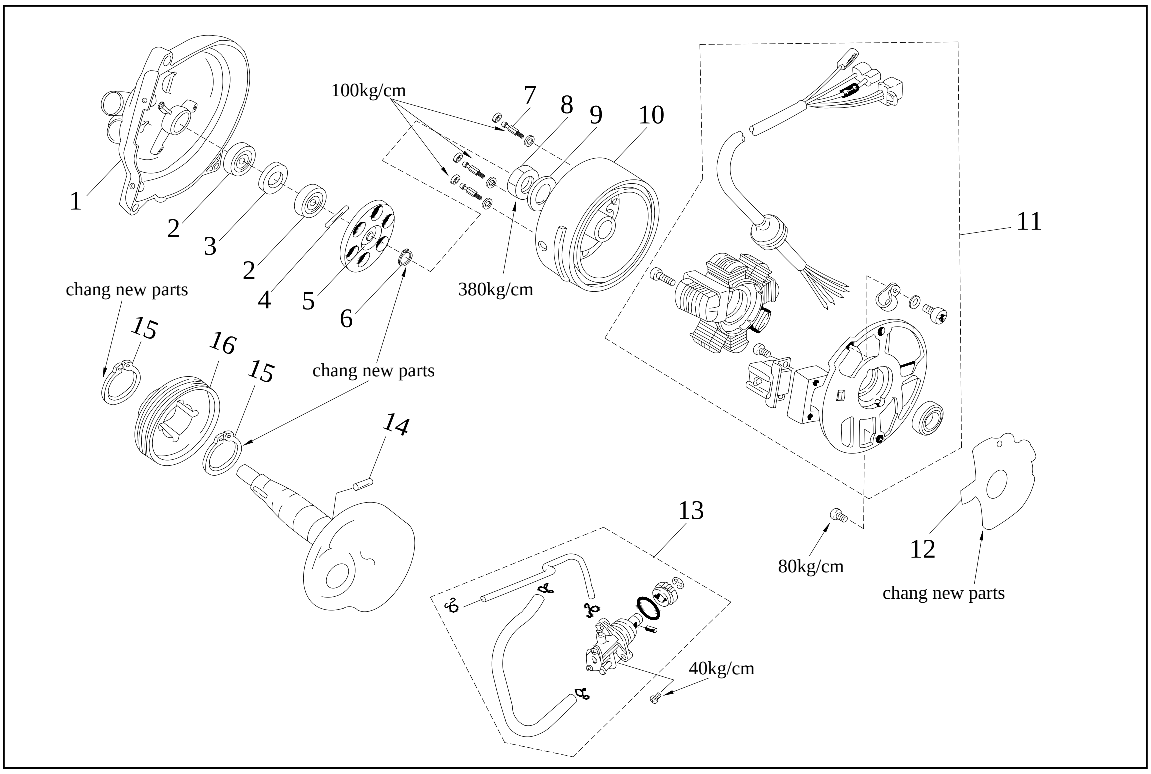
1. Bearing
2. Oil Seal
3. Oil Filter Plug
4. O-type Oil Ring
5. Copper Plain Washer
6. Bolt for Discharging Oil
7. Driven Shaft
8. Bearing
9. Gear Idle
10. Conical Spring Gasket
11. Oil Seal
12. External Clamp
13. Gear Box Cover
14. Gasket for Gear Box Cover
15. Anchor Pin
16. Bearing
17. Main Driving Gear
18. Gasket for Left Crankcase Cover


1
3
2
4
chang new parts
OIL
chang new parts
7
17
5
16
15
6
8
9
chang new parts
13
10
18
180kg/cm
12
11
chang new parts
15
14
130kg/cm
chang new parts

Assembly and Adjustment of the Engine

Lubrication Pump and CDI Generator

1. Water Pump Assembly
2. Bearing
3. Spacer Tube
4. Anchor Pin
5. Pump Actuator Disc
6. External Clamp
7. Pump Actuator Bolt
8. Nut
9. Plain Washer
10. Fly Wheel
11. Magneto Assembly
12. A.C.G Gasket
13. Oil Pump Assembly
14. Anchor Pin
15. External Clamp
16. Drive,Gear, Oil-Pump


100kg/cm
7
8
9
10
11
1
2
3
2
4
5
6
380kg/cm
chang new parts
15
16
15
chang new parts
14
13
12
80kg/cm
chang new parts
40kg/cm

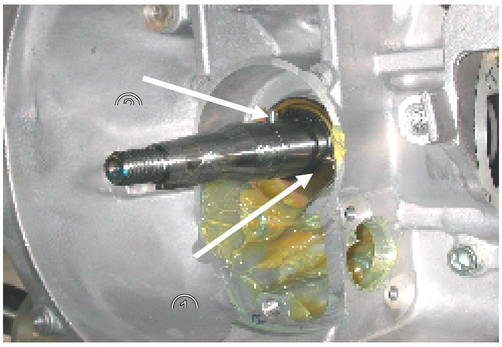
Assembly and Adjustment of the Engine

Lubrication Pump

1. Install:

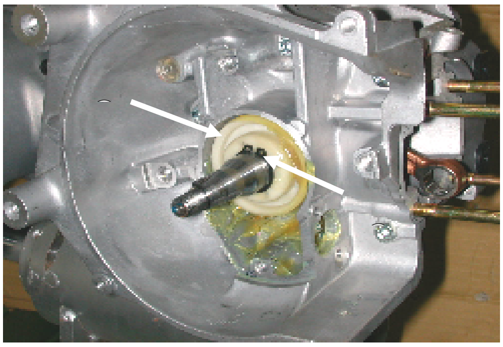
- Clamping Ring①

- Anchor Pin②



2. Install:

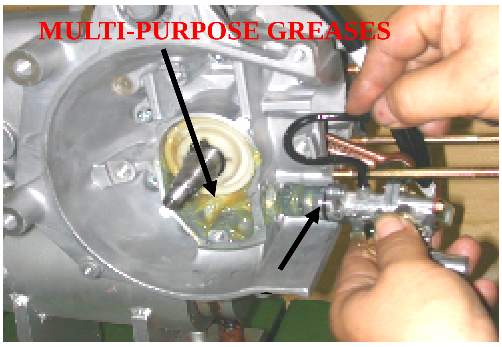
- Driving Gear①



3. Smear:

- The O-type Oil Ring① with the lithium

  soap greases.

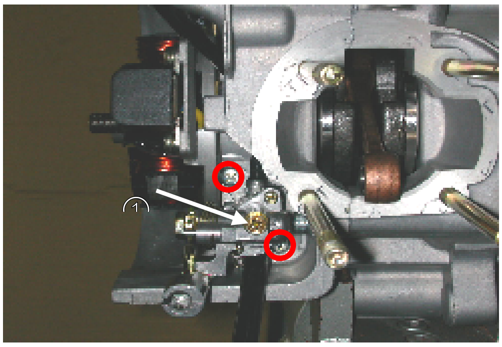


4. Smear additionally:
   - The lubrication pump gear 15cc with
     the lithium soap greases.

5. Install:

- Lubrication Pump①

  Screws (Lubrication Pump):
  40Kg/cm



Assembly and Adjustment of the Engine

CDI Generator

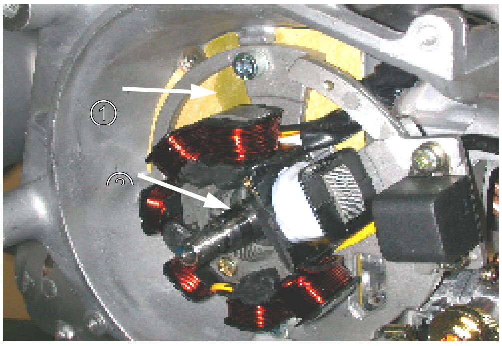
1. Install:

- Gasket①

- Semicircular Key②

Warnings:

New gaskets are required.

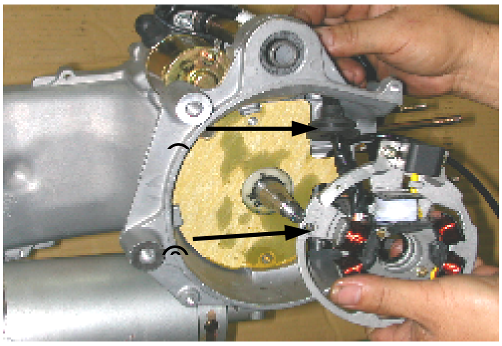


2. Install:

- Oil Seal

Notes:

- Smear the oil seal lip with the lithium soap greases.
- Inspect the oil seal and replace it in case of any damage.



3. Install:

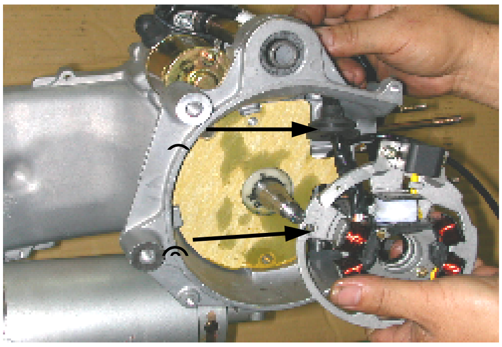
- Grommet①

- Armature Assembly②

Screws (Armature Assembly): 80kg/cm

Notes:

- Put CDI generator wires unit through the crankcase hole.
- Install the grommet as shown in the picture.



4. Install:

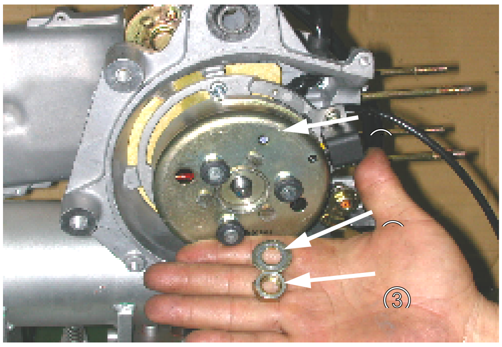
- Rotor①

- Plain Washer②

- Nut③

Notes:

- Clean the conical parts of the crack shaft and the rotor.

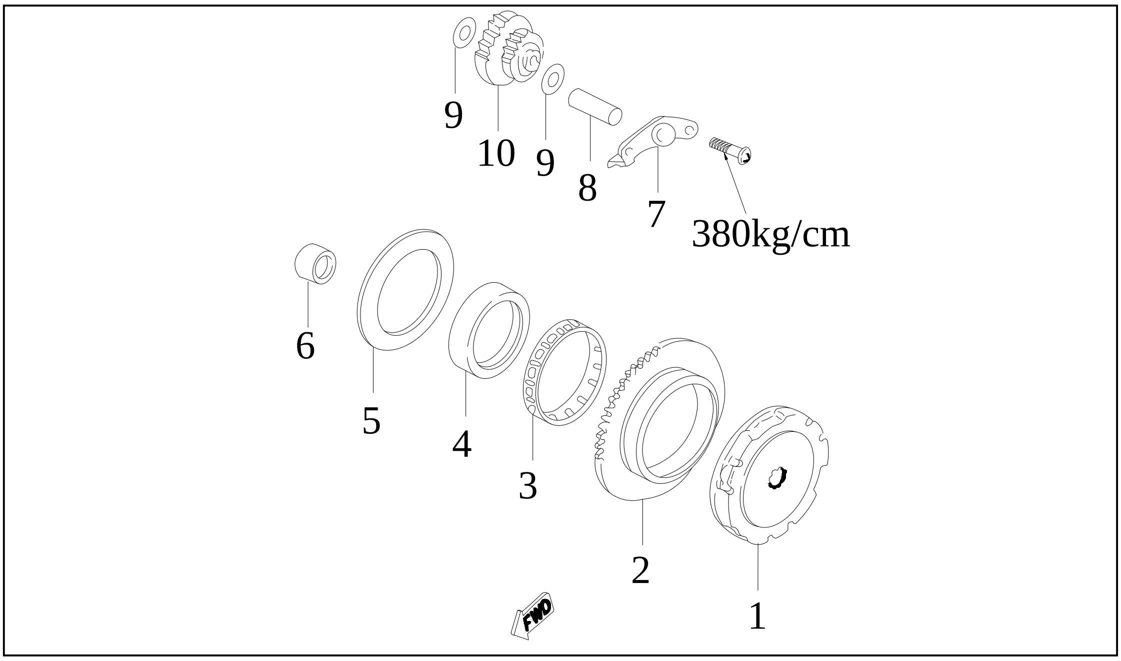


- Insert completely the semicircular key into the groove of the crank key when installing the rotor.
  Screws (Rotor):   380Kg/cm

Assembly and Adjustment of the Engine

Starting Clutch

1. Starting Clutch
2. Electric Starting Clutch Gear
3. Needle Bearing
4. Gear Drum
5. Plain Washer
6. Spacer Pipe
7. Gear Idle Plate
8. Gear Idle Shaft
9. Plain Washer
10. Gear Idle

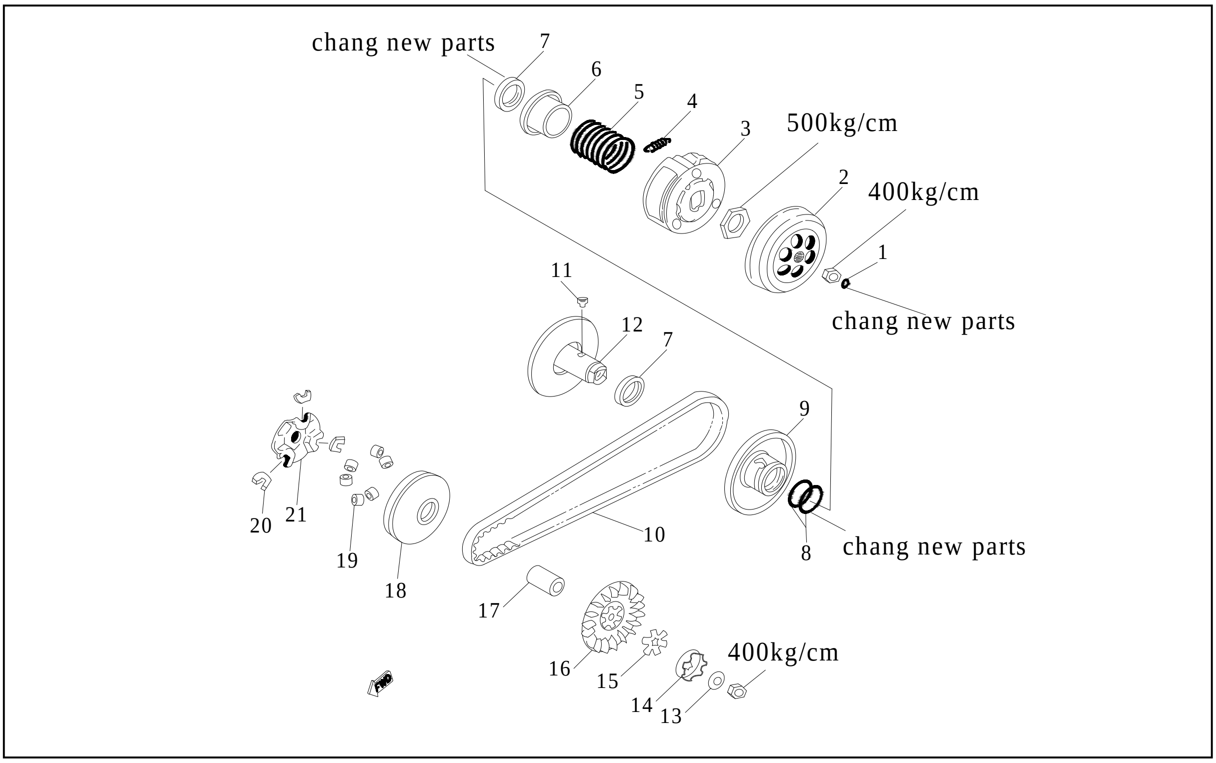

9
10
9
8
7
380kg/cm
6
5
4
3
2
1
FWD

Assembly and Adjustment of the Engine

V-Belt and Main and Counter Grooved Wheels

1. Oil Ring
2. Clutch Cover
3. Clutch Twister
4. Return Spring for Clutch
5. Pressure Spring
6. Spring Seat
7. Oil Ring
8. Counter Grooved Wheel
9. V-Belt
10. Guide Pin
11. Guide Pin
12. Counter Grooved Wheel
13. Conical Spring Gasket
14. One Way Clutch
15. Pliers Gasket
16. Main Fixing Grooved Wheel
17. Axle Collar of Clutch
18. Main Sliding Grooved Wheel
19. Heavy Roller
20. Cam Plate
21. Sliding Key of the Plate Cam

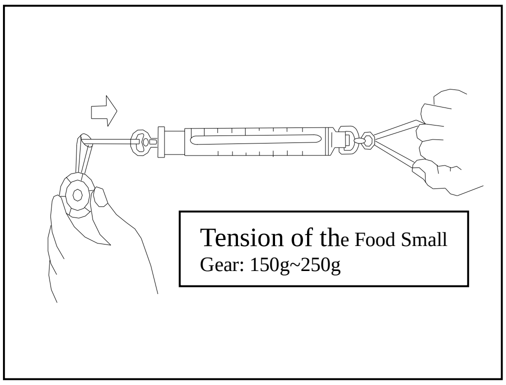
A	Abrasion Limit of Clutch Cover: 112.3mm
B	Abrasion Limit of Clutch Shoe: 1mm
C	Abrasion Limit of V-Belt: 14.6mm
D	Return Spring Length of Clutch: 29.9mm

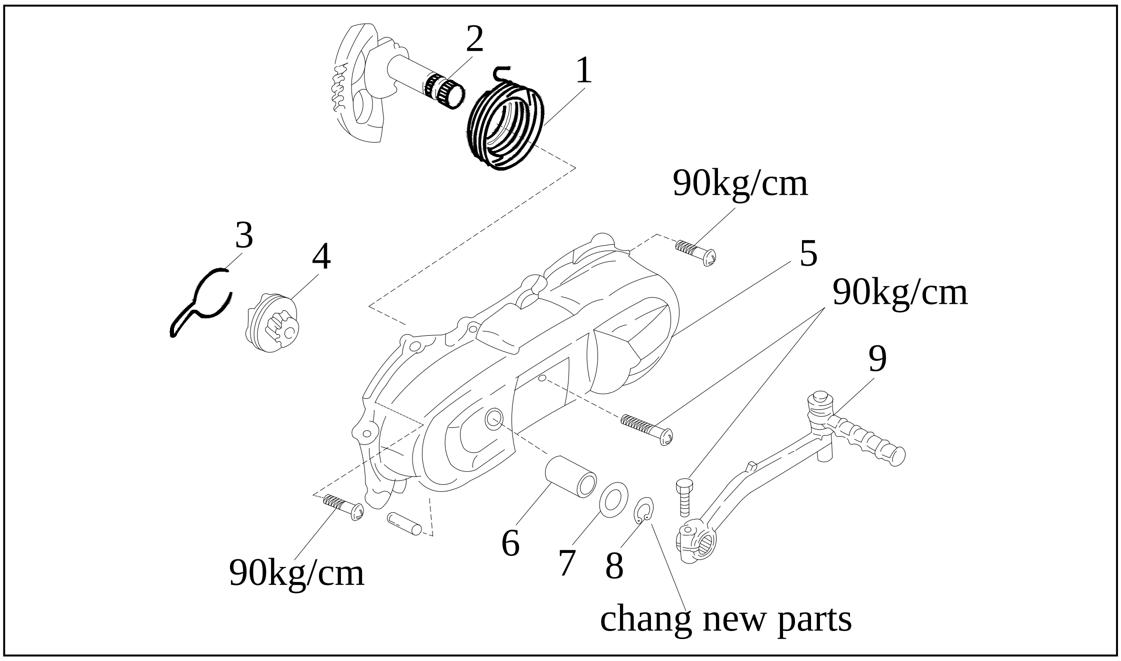

chang new parts
7
6
5
4
3
500kg/cm
2
400kg/cm
1
chang new parts
11
12
7
9
20
21
19
18
10
8
chang new parts
17
16
15
14
13
400kg/cm

Assembly and Adjustment of the Engine

Foot Shaft

1. Starting Return Spring
2. Starting Shaft Gear
3. Spring of Foot Small Gear
4. Foot Small Gear
5. Left Crankcase Cover
6. Starting Shaft Sleeves
7. Plain Washer for Starting Shaft
8. Foot Starting Rod

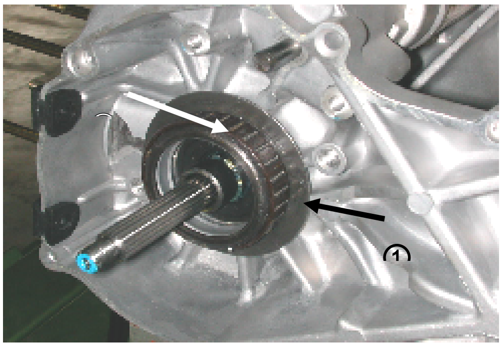

Tension of the Food Small Gear: 150g~250g


2
1
90kg/cm
3
4
5
90kg/cm
9
6
7
8
90kg/cm
chang new parts

Assembly and Adjustment of the Engine

Starting Clutch

1. Install:

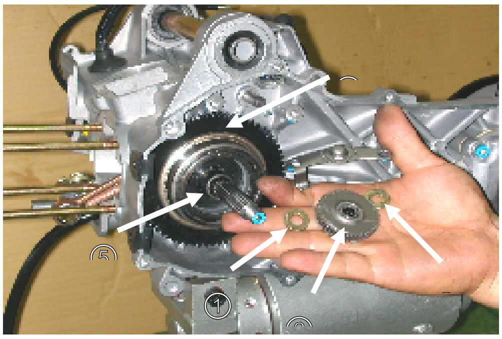


- Gasket①
- Bearing②

Notes:

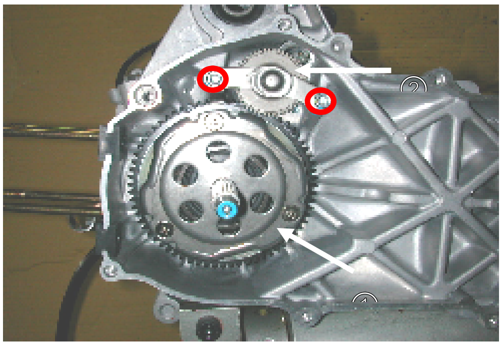
Lay the MOS2 engine oil on the gear casing.

2. Install:



- Gasket①
- Gear Idle②
- Gasket③
- Starting Wheel④
- Axle Collar⑤

3. Install:



- Starting Clutch①
- Gear Idle Plate②

Notes:

- Lay the greases on the gear idle.
- Lay the MOS2 engine oil on the inside roller of the clutch.

Screws (Gear Idle Plate): 90kg/cm

V-Belt, Main and Counter Grooved Wheels and Foot Shaft

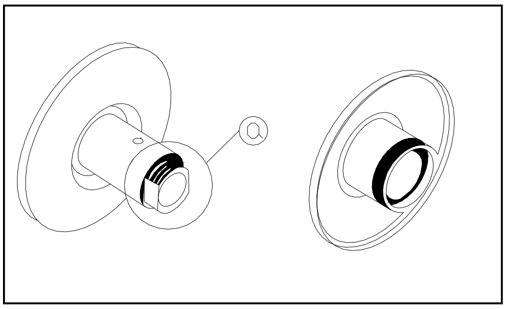
1. Clean:

- Sliding Surface (Counter Grooved Wheel)

2. Lay:

- The lithium soap greases on the sliding surface of the sliding grooved wheel.

3. Install:



- Sliding Grooved Wheel into the Sliding Grooved Wheel

Notes:

Wrap with adhesive tapes the part marked ⓐ of the

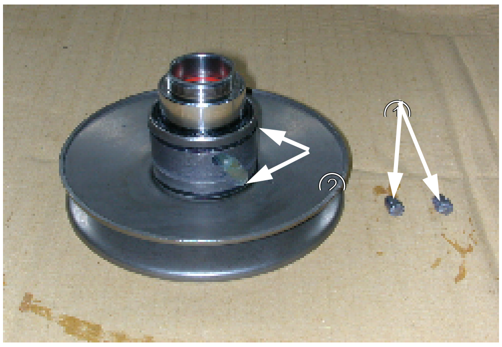
fixing grooved wheel and flat the pointed part in order to prevent the oil seal from being damaged as the sliding grooved wheel moves. No rotation of the oil seal lip is permitted during the assembly process.

4. Install:

- Guide Pin①
- O-type Oil Ring②

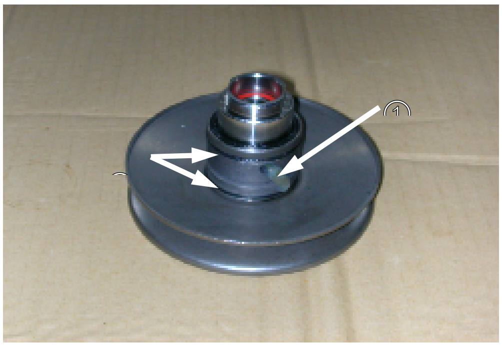
Warnings:

An unused O-type oil ring is required.



5. Lay:

- The lithium soap greases on the torque cam groove ① and O-type oil ring②.

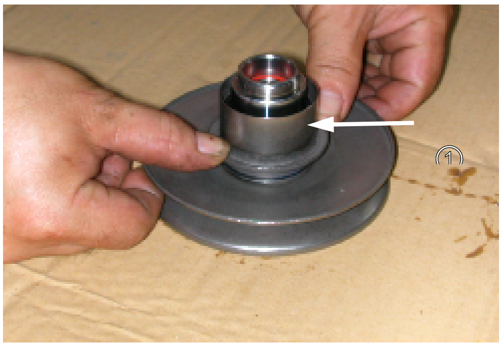


6. Inspect:

- Operation of the Sliding Grooved Wheel
  Repair it in case of bad performance.

7. Install:

- Spring Seat①
- Counter Grooved Wheel
- Pressure Spring
- Clutch Twister



Notes:

Get rid of the overmuch grease.

8. Clean:

- Contact surface between the nut and the clutch twister.

9. Install:

- Nut (Clutch Twister)

Notes:

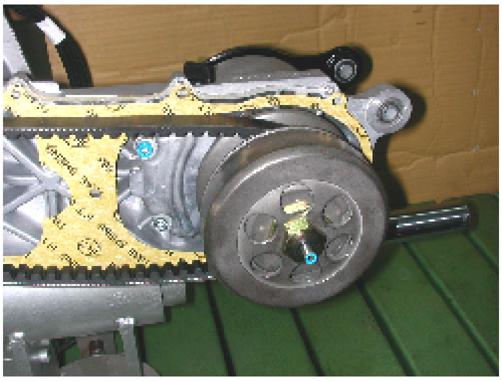
Compress and fix the counter grooved wheel with a clutch twister in order to install the nut.

10. Lock:

- Nut (Clutch Twister)

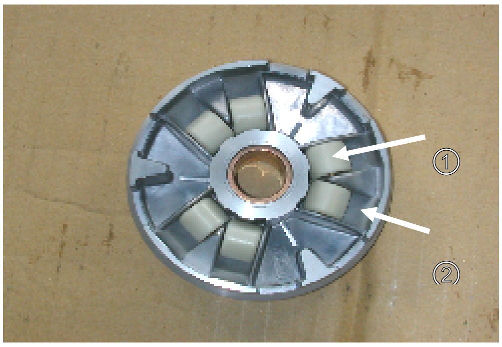
Notes:

Install the counter grooved wheel onto the main driving shaft and lock it with a pneumatic tool.



11. Clean:

- Sliding Surface (Balance Weight)

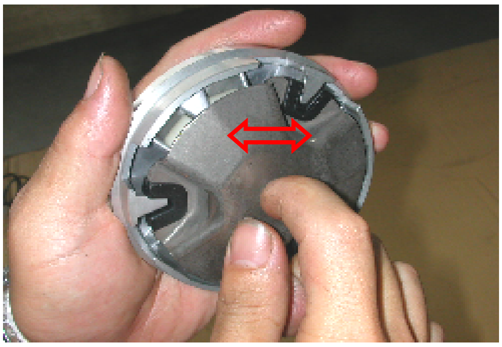


12. Install:

- Balance Weight① to the sliding groove②

13. Install:

- Cam (Main Grooved Wheel)
- Slip Fitting (Main Grooved Wheel)



14. Inspect:

- Operation of the Cam(Main Grooved Wheel)
  Repair it in case of bad performance.

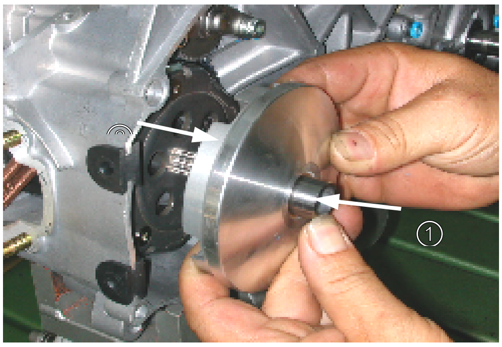
15. Install:

- Axle Collar①.

- Set of the Main Sliding Grooved Wheel②.

Notes:

Hold the cam and sliding grooved wheel by hands in order to prevent the balance weight from falling.



Assembly and Adjustment of the Engine

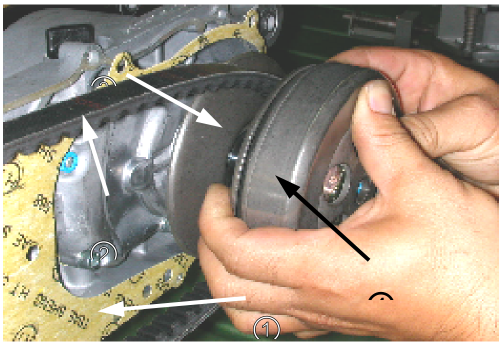
16. Install:

- Plain Washer①
- One Way Clutch②
- Gasket③
- Main Fixing Grooved Wheel④
- Plain Washer⑤
- Nut⑥

Notes:

Lock them with a pneumatic tool.

17. Install:



- Gasket①
- V-Belt②
- Counter Grooved Wheel Assembly③
- Clutch Casing④

Wind the V-belt onto the grooved wheels and press the spring of the counter grooved wheel in order to make the belt into the wheel.

Notes:

- Make the arrow sign on the belt forward.
- Get rid of the remained grease or lubricant from the contact surface between the main and counter grooved wheel and the belt before installing the belt.

18. Install:

- Nut
- O-type Oil Ring

Notes:

Lock them with a pneumatic tool.

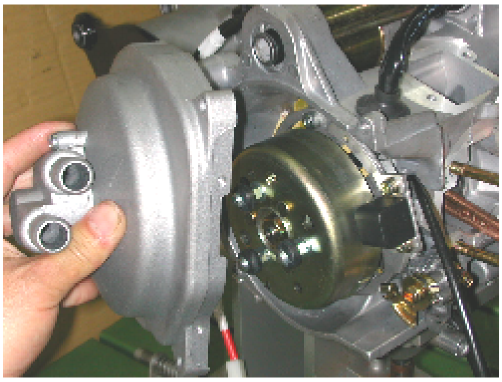
Warnings:

An unused O-type oil ring is required.

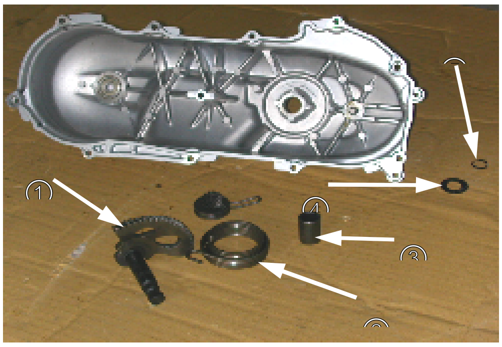
Assembly and Adjustment of the Engine

19. Install:

- Generator’s Housing



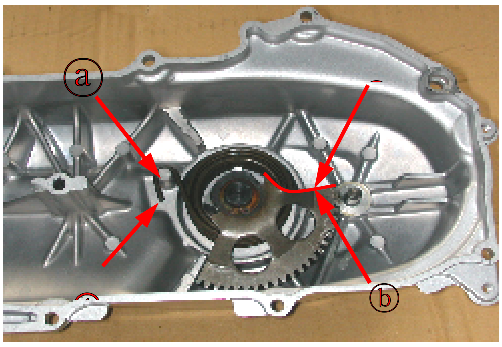
20. Install:



- Foot Shaft Assembly①
- Return Spring②
- Sleeves③
- Plain Washer④
- Clamp Ring⑤

21. Hook:

- Return Spring

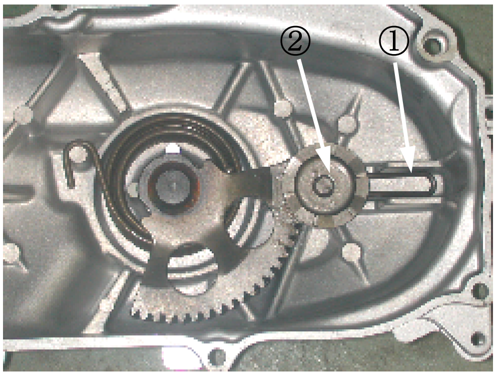


Notes:

Hook the end of the spring ① to the convex part ⓐ and hook another end ②to the groove of the foot shaft as showed in the right pictureⓑ.

22. Install:

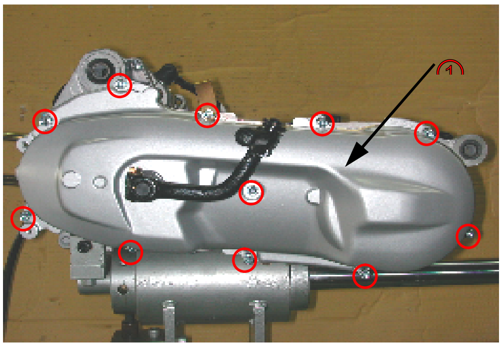
- Stop Clamp①
- Foot Small Gear②



Notes:

Install the stop clamp as shown in the right picture.

Assembly and Adjustment of the Engine



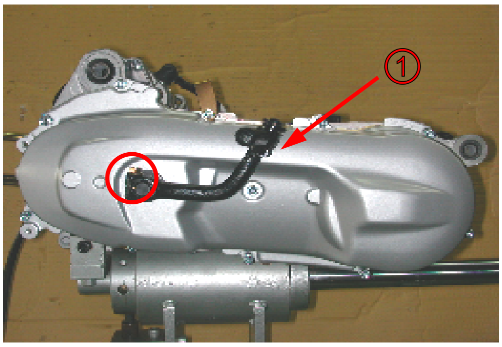
23. Install:

- Anchor Pin
- Left Crankcase Cover①

Screws (Left Crankcase Cover): 90kg/cm

Notes:

Lock them across.



24. Install:

- Food Lever①

Notes:

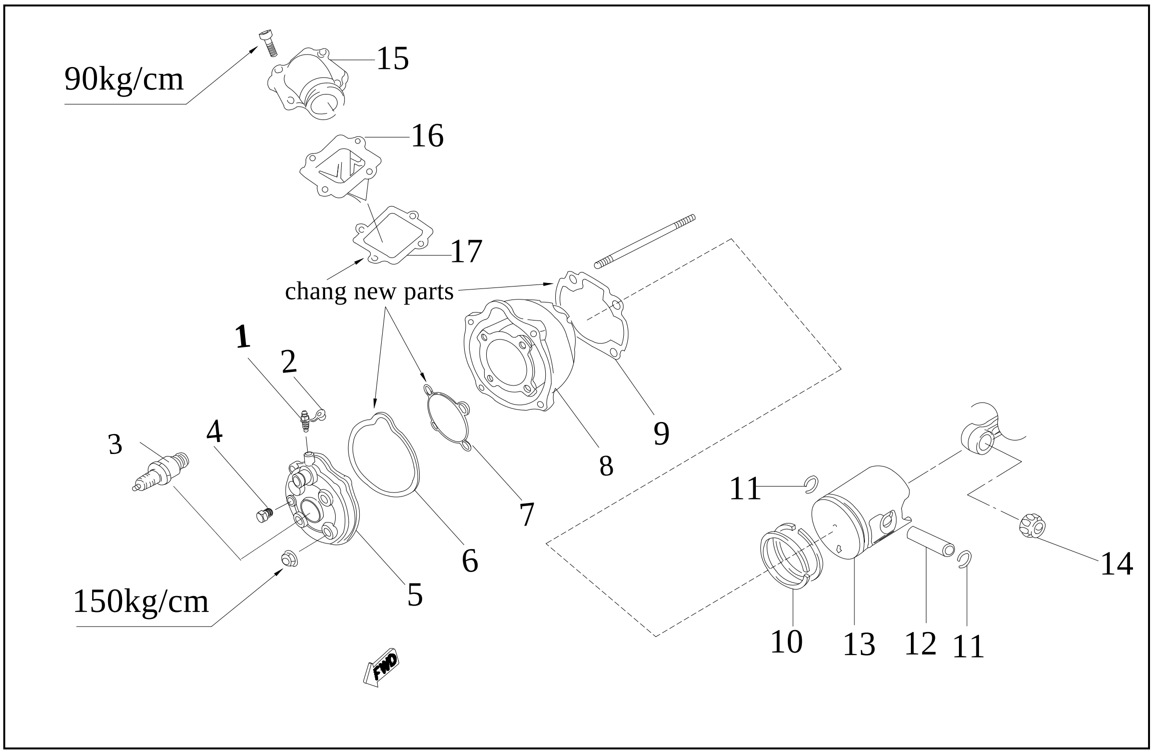
Parallel the arm to the edge of the crankcase.

Assembly and Adjustment of the Engine

Cylinder Head, Cylinder and Piston

1. Gassing Bolt
2. Gassing Bolt Cover
3. Spark Plug
4. Temperature Switch
5. Cylinder Head
6. Head Waterproof Oil Ring
7. Head Oil Ring
8. Cylinder
9. Cylinder Gasket
10. Piston Ring
11. Piston Clamp Ring
12. Piston
13. Piston
14. Small Roller Bearing
15. Intake Manifold
16. Check Valve Assembly
17. Check Valve Gasket

A	Clearance between Piston and Cylinder: 0.035~0.040mm
B	Warpage Limit of Cylinder Head: 0.03mm
C	Piston Side Clearance: 0.03~0.05mm
D	Tip Clearance of Piston Ring: 0.15~0.35mm
E	Spark Plug: BP8HSA-R (NGK) Clearance: 0.9~1.0mm


90kg/cm
15
16
17
chang new parts
1
2
3
4
9
8
7
6
5
11
14
150kg/cm
10
13
12
11
FWD

Assembly and Adjustment of the Engine

Cylinder Head, Cylinder and Piston

1. Install:

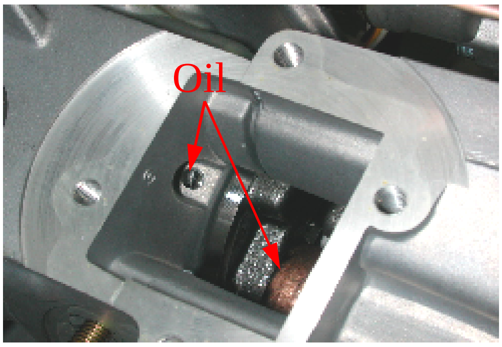
- Piston (Top and Second Ring)

Notes:

Have the signed face of the piston ring upward.

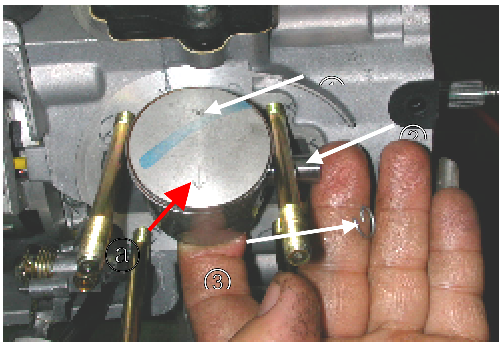
2. Lay:

- Two-stroke lubricant on the bearing, crankshaft and the piston groove, the pin and the skirt.



3. Install:

- Bearing of the Small End
- Piston①
- Piston Pin②
- Piston Pin Clamp③

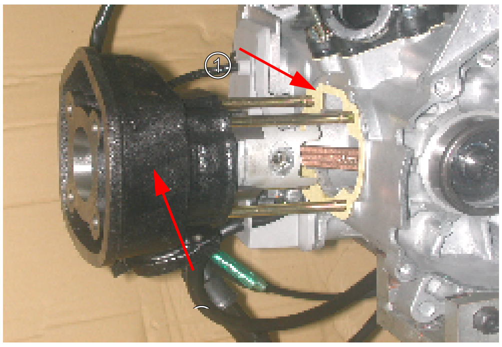


Notes:

- Have the piston top with the arrowⓐ downwards.
- Block the opening of the crankcase with a clean textile in order to prevent the clamp ③ from slipping into the crankcase.

Notes:

An unused clamp is required.



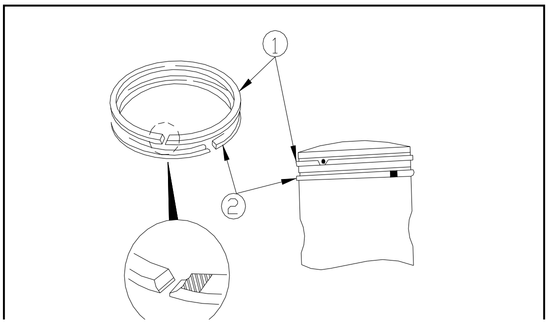
4. Install:

- Gasket (Cylinder)①
- Cylinder②

Notes:

Unused gaskets are required.

Notes:



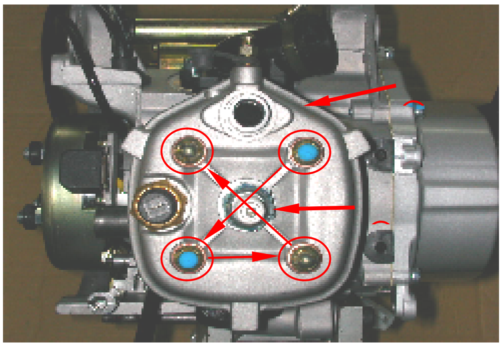
- Install the piston ring as shown in the right picture before the installation of the cylinder.
- Hold the cylinder body with one hand and press the piston ring with another hand.

① Top Ring
② Second Ring

Assembly and Adjustment of the Engine

5. Install:

- Gasket (Cylinder)
- Cylinder①
- Spark Plug②



Notes:

- Use an unused gasket.
- Have the convex face of the gasket toward the cylinder head.

Notes:

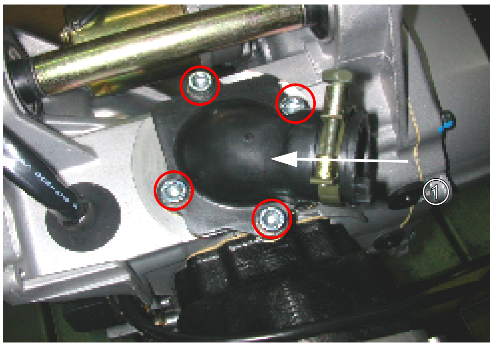
Lock the nuts across.

Nuts (Cylinder Head): 140kg/cm

Spark Plug: 180kg/cm

6. Install:

- Gasket
- Leaf Valve
- Intake Manifold①



Notes:

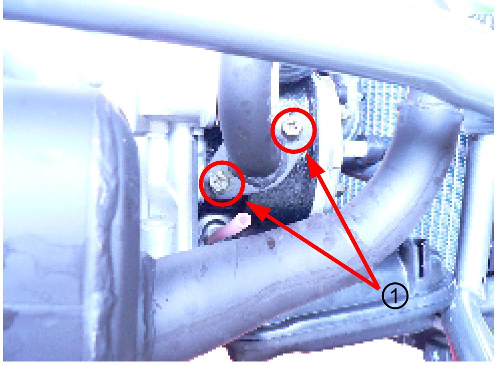
An unused gasket is required.

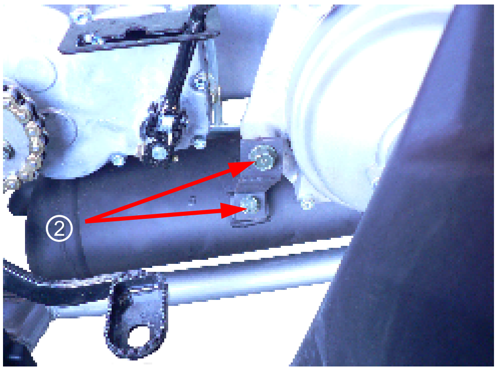
7. Install:

- Gasket (Exhaust Pipe)
- Exhaust Pipe Assemble

Bolt (Exhaust Pipe) ①:110Kg/cm

Bolt(Silencer) ②:260Kg/cm



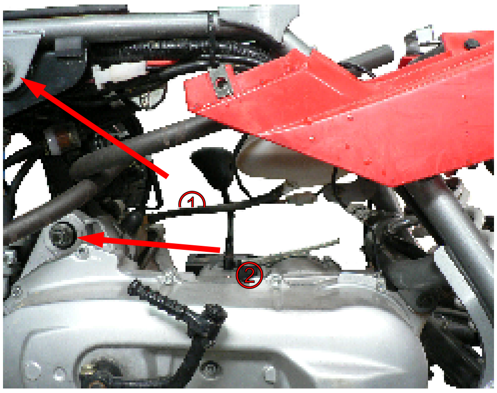


Assembly and Adjustment of the Engine

Installation of the Engine

Notes:

Pay attention to the following items in addition to install the engine as a converse order as the dismantlement.



1. Install:

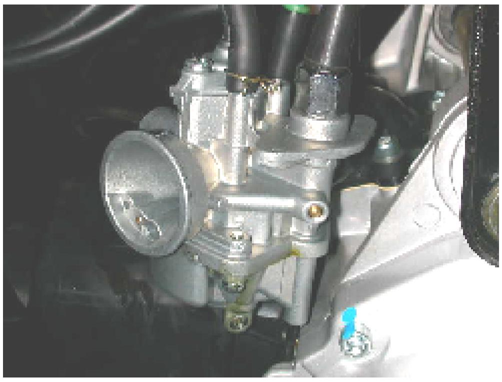
- Bolt (Stand)①
- Bolt (Engine Body)②

2. Install:

- Carburetor

Notes:

Insert the convex part of the carburetor into the groove of the manifold.

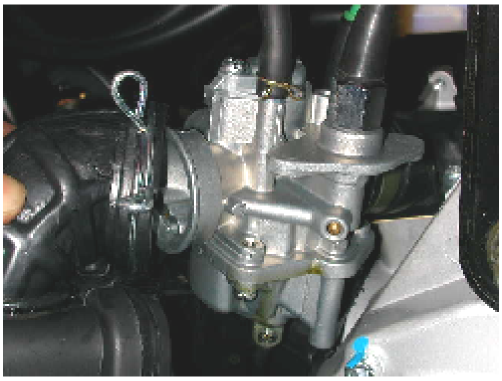


3. Install:

- Air Filter

Notes:

Insert the concave part of the carburetor into the connecting groove of the air filter.



4. Add:

- Gear Oil

5. Discharge:

- Air in the lubrication pump.

6. Adjust:

- Wire rope of the lubrication pump.

7. Adjust:

- Engine Idle

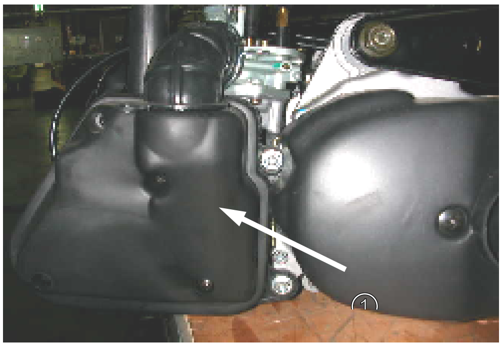
Idle Speed: ~1800~1900r.p.m/min

Assembly and Adjustment of the Engine

Carburetor

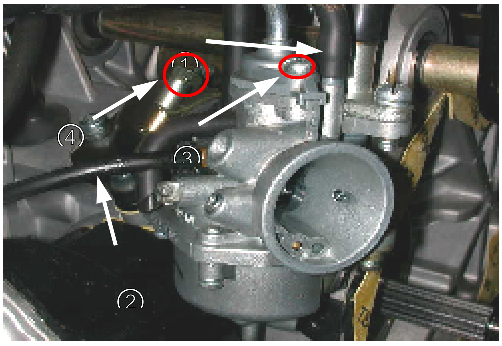
Disassembly

1. Dismantle:



- Air Filter①

2. Dismantle:

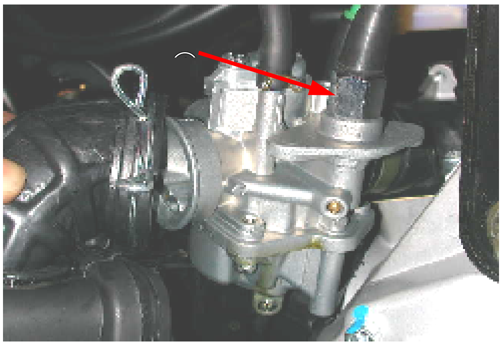


- Carburetor①
- Lubricating Pipe②
- Carburetor Cover③
- Screws (Carburetor Body)④

Notes:

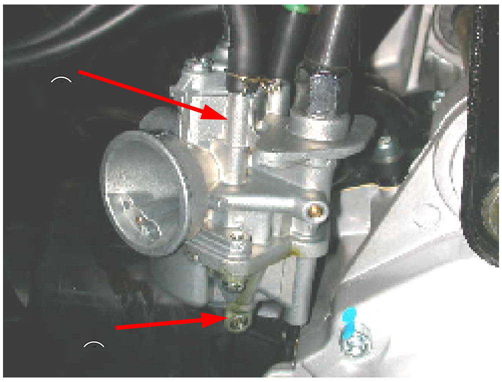
Block the opening of the lubricating pipe two in order to prevent the lubricant from leaking.

3. Dismantle:



- Choke Wire Unit①

4. Dismantle:



- Carburetor Assemble①

Notes:

Unlock the screws② before dismantling the

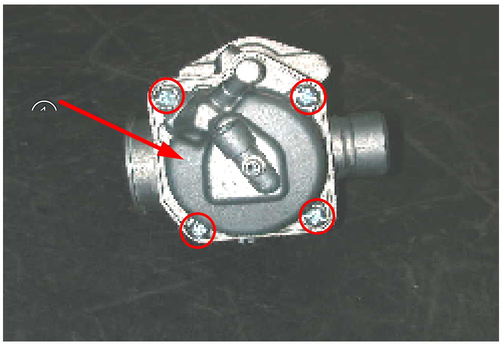
carburetor in order to discharge the gasoline in the carburetor.

Assembly and Adjustment of the Engine

Disassembly:

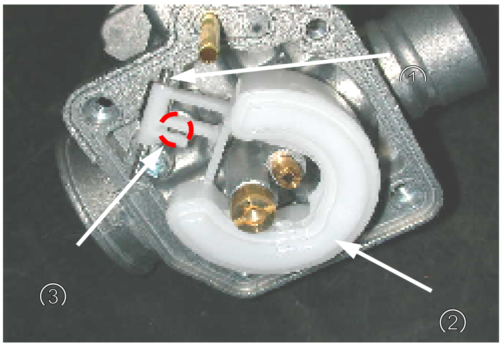
1. Dismantle:

- Float Chamber Cover①
- Sealing Oil Ring



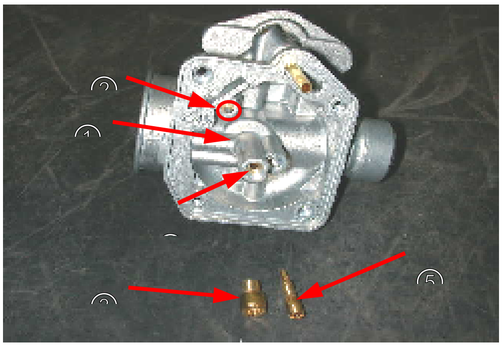
2. Dismantle:

- Float Chamber Pin①
- Float Chamber
- Needle Valve③



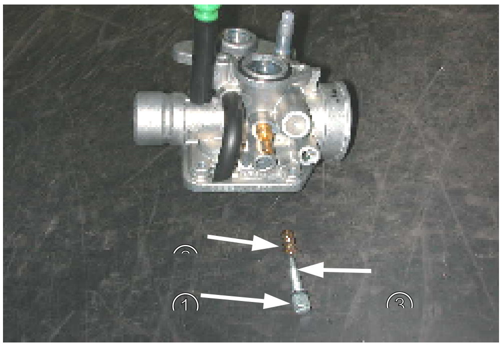
3. Dismantle:

- Fixing Seat①
- Needle Valve Seat②
- Main Oil Jet③
- Main Oil Jet Tube④
- Guide Oil Nozzle⑤



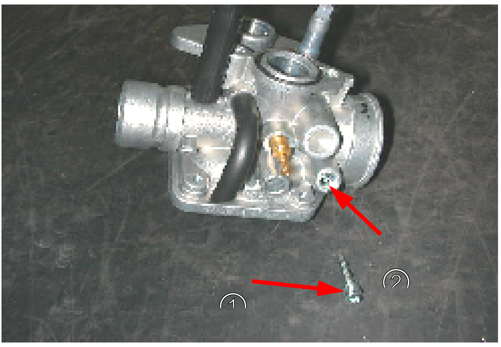
4. Dismantle:

- Throttle Set Screw①
- Spring②
- O-type Oil Ring③



5. Dismantle:

- Guide Screw①
- Spring②



Notes:

Count the number of circles as dismantling the guide screw.

Assembly and Adjustment of the Engine

Inspection

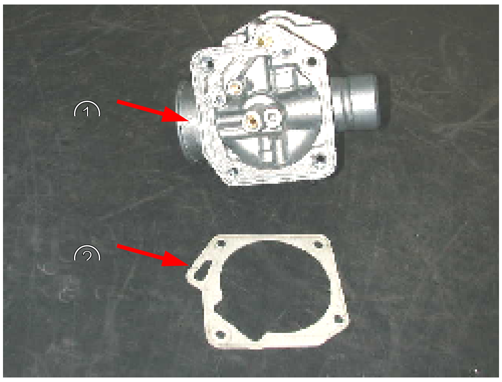
1. Inspect:

- Carburetor Body

  Clean it in case of block.

Notes:

Clean it with paraffinic solvents and blow all oil nozzles with compressed air.



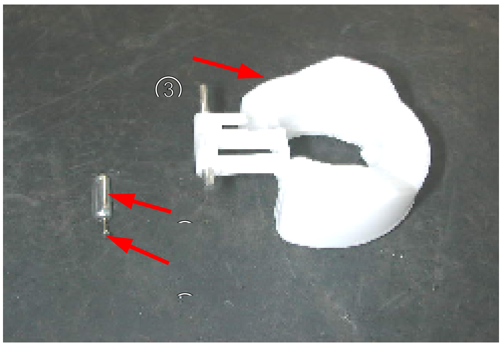
2. Inspect:

- Float Chamber Cover①

  Replace it in case of any damage.

- Sealing Gasket②

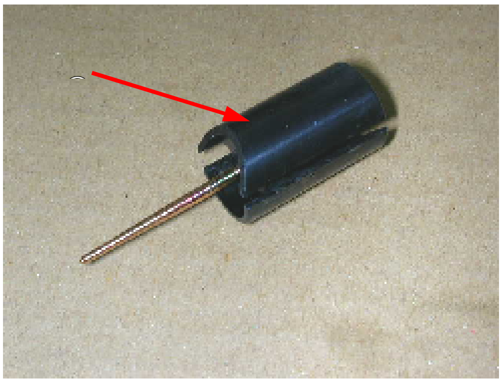
  Replace it in case of any damage.



3. Inspect:

- Needle Valve①
- Needle Valve Seat②
- Float Chamber③

  Replace if in case of any damage.



4. Inspect:

- Throttle Valve①

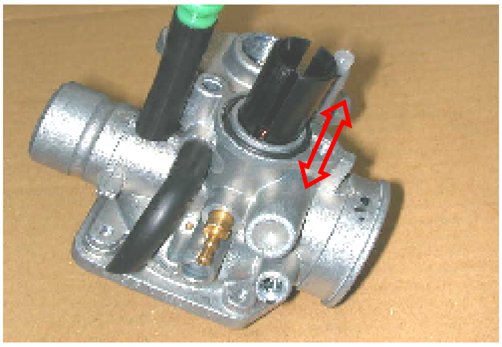
  Replace it in case of any abrasion or damage.

5. Inspect:

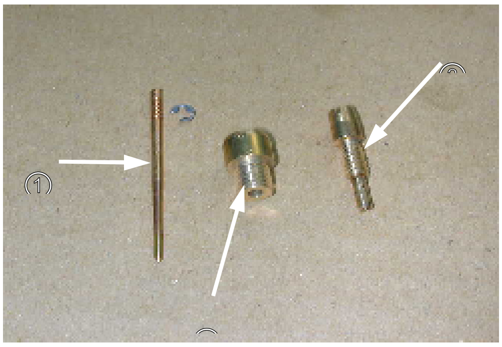
- Movement

  Replace in case of bad performance.

  Insert the throttle valve into the carburetor body to test the movement status.



6. Inspect:



- Needle Valve①

  Replace it in case of any bend or abrasion.

- Main Oil Jet②

- Guide Oil Nozzle③

  Replace them in case of block.

7. Inspect:

- Throttle Set Screw
- Guide Screw

  Replace them in case of any abrasion or damage.

8. Inspect:

- O-type Oil Ring

  Replace it in case of any damage.

9. Inspect:

- Chocker Piston

  Replace it in case of any abrasion or damage.

10. Measure:

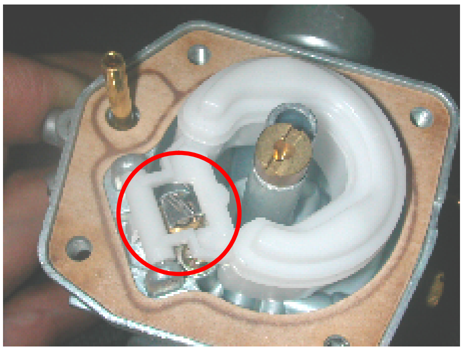
- Height of the Float Chamberⓐ

  Check the needle valve, float chamber and needle valve seat in case of any inconformity.

  Height of Float Chamber:~18.5mm

Assembly and Adjustment of the Engine

Steps for Measuring the Height of the Float Chamber:



- Install the needle valve, float chamber and float pin into the carburetor body.
- Turn the carburetor upside down as shown in the picture.
- Measure the clearance between the chamber top to the contact surface of the float chamber that has its sealing oil ring dismantled.

Notes:

Make the chamber arm just contact the needle valve only.

- Check the needle valve, its seat and the float chamber in case of inconsistent height of the float chamber.
- Replace it in case of any abrasion.

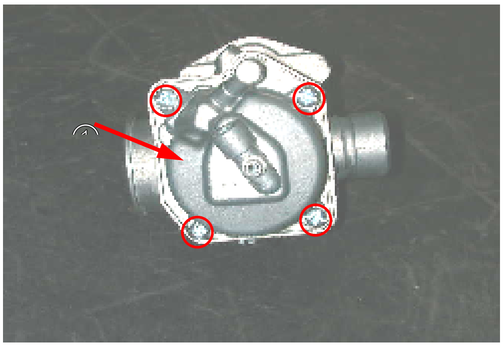
Assembly

Pay attention to the following items in addition to make an assembly as a converse order as the dismantlement:

Notes:

- Clean all parts with unused gasoline before assembly.
- All O-type oil rings and sealing oil rings to be installed into the carburetor must be unused.

1. Install:



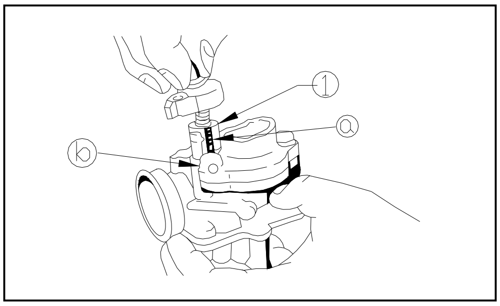
- Float Chamber Cover①

2. Install:

- Throttle Valve①

Notes:

Insert the groove ⓐ of the throttle valve into the convex part of the carburetor completely.



Assembly and Adjustment of the Engine

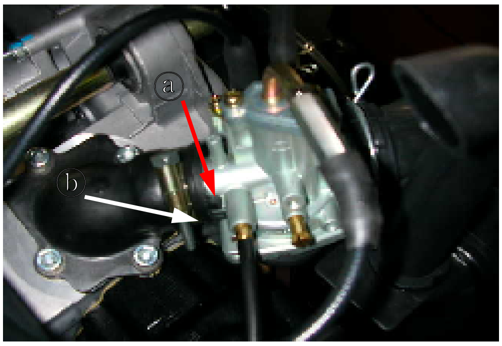
Assembly

Pay attention to the following items in addition to make an assembly as a converse order as the dismantlement:

1. Install:

- Carburetor Body

Notes:



Insert the convex partⓐ of the carburetor into the concave partⓑ of the intake manifold completely.

2. Adjust:

- Guide Screw
- Throttle Set Screw

Circles of Unlocking the Guide Screw:¾±¼Circle

Engine Idle Speed: ~1800~1900r/min

Adjustment

1. Measure:

- Height of the Oil Levelⓐ

Adjust in case of any inconformity.

Height of Oil Level: ~3.3~4.3mm

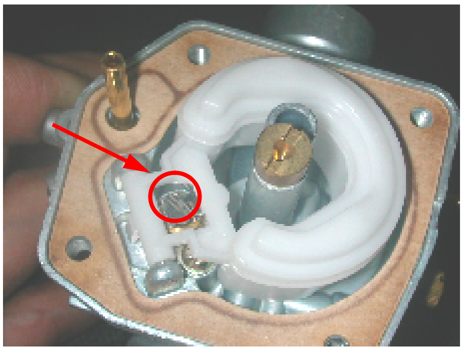
a

2

1

Steps for Measuring and Adjusting the Oil Level:

- Place the engine on a flat surface.
- Support the engine from its bottom in order to keep the carburetor vertical.
- Connect the gasoline gauge① to the discharge pipe② as shown in the picture.
- Unlock the discharge screws and heat the engine for several minutes.
- Measure the height of the oil level ⓐ with a gasoline gauge.
- Check if the needle vale, its seat and the float chamber are worn or torn or not. Replace them in case of any abrasion. (the needle valve and its seat must be replaced together.)
- Adjust the chamber tongue if they are in good situation.
- Install the carburetor.



- Re-measure the height of the oil level.

Assembly and Adjustment of the Engine

Manual Choke

Inspection

1. Dismantle:

- Front and Rear Covers

2. Inspect:

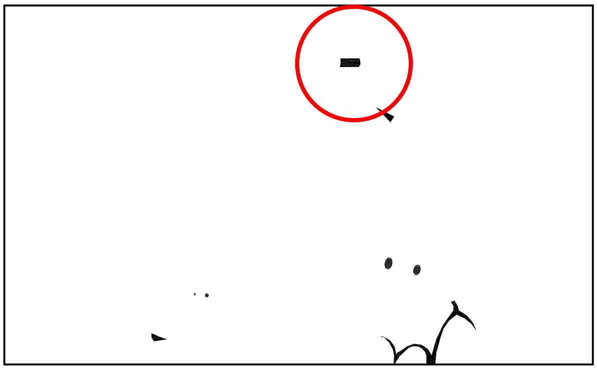
- Operation of the Manual Choker

Steps:

Step1:

- Connect an proper tube① to the starting air inlet②.
- Blow the air into the tube to check if the tube is through or not.
  Through→ operation of the starting piston is normal.
  Not → operation of the starting piston is abnormal.
- Replace the manual choker assembly in case of abnormality.

Step 2:



- Pull upward the manual choker wire ① to the utmost.
- Blow the air into the tube to check if the tube is through or not.
  Through→ operation of the starting piston is normal.
  Not → operation of the starting piston is abnormal.
- Replace the manual choker assembly in case of abnormality.

Step 3:

- Push back the choker seat and repeat step1.

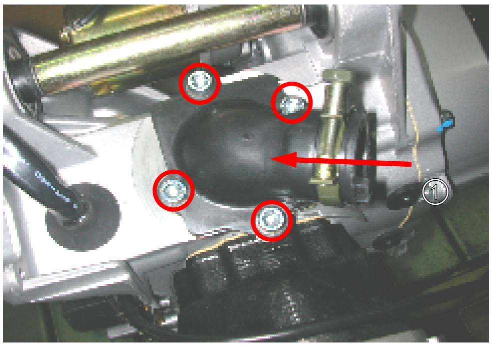
Assembly and Adjustment of the Engine

Leaf Valve

Dismantlement

1. Dismantle:
    - Carburetor

2. Dismantle:
    - Intake Manifold①
    - Leaf Valve
    - Gasket



Inspection

1. Inspect:
    - Intake Manifold

      Replace it in case of any damage or crack.
    - Leaf Valve

      Replace if it looses the springiness or is crack.

Steps:

- Check the leaf valve by eyes.

Notes:

The leaf should contact the valve seat closely or slightly under a normal situation.

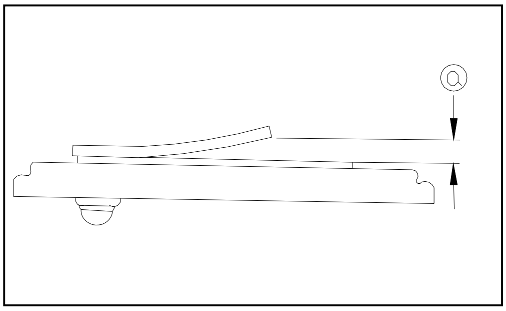
- Suck the leaf in order to test the tightness (beside the carburetor).
- The leakage should be stable and unsharp.

2. Measure:
    - Height ⓐ of the leaf valve stopper

      Replace it in case of any inconformity.

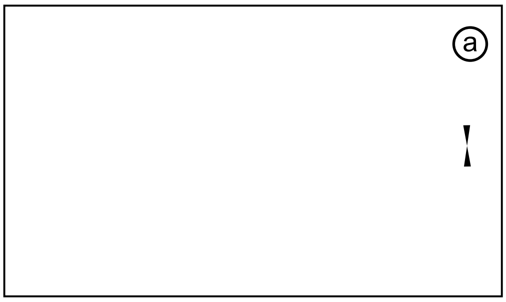
      Height of Leaf Valve Stopper:

      ~6.0~6.4mm



Assembly and Adjustment of the Engine

3. Measure:



- Bend Limit of the Leaf Valveⓐ

  Replace it in case of any inconformity.
  Bend Limit of Leaf Valve: 1.0mm

Installation

Pay attention to the following items in addition to make an assembly as a converse order as the dismantlement:

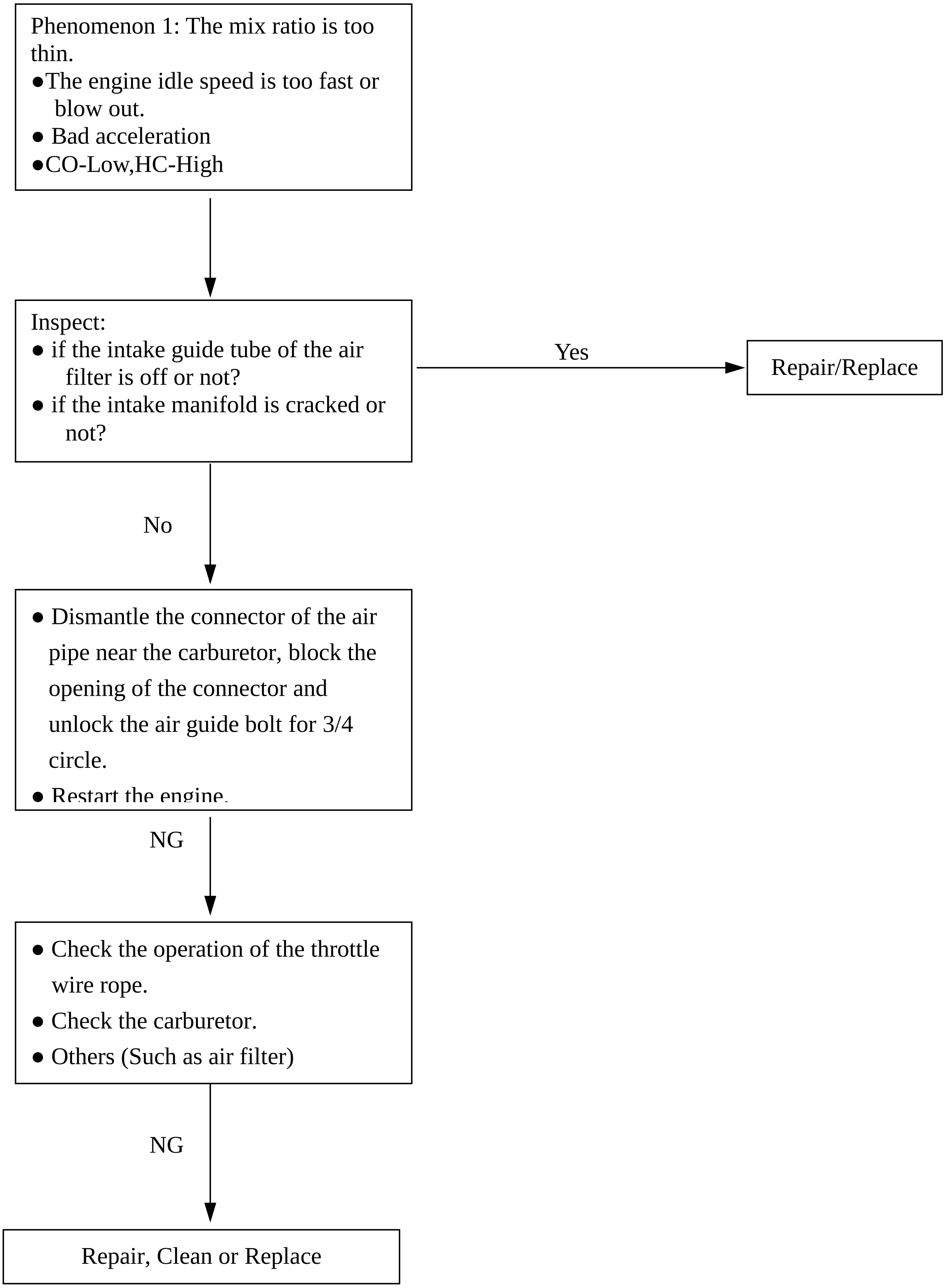
1. Install:
   - Gasket
   - Leaf Valve
   - Intake Manifold①

Notes:

Unused gaskets are required.

Assembly and Adjustment of the Engine

Removal of Troubles in Carburetor



Phenomenon 1: The mix ratio is too thin.

- The engine idle speed is too fast or blow out.
- Bad acceleration
- CO-Low,HC-High

Inspect:

- if the intake guide tube of the air filter is off or not?
- if the intake manifold is cracked or not?

Repair/Replace

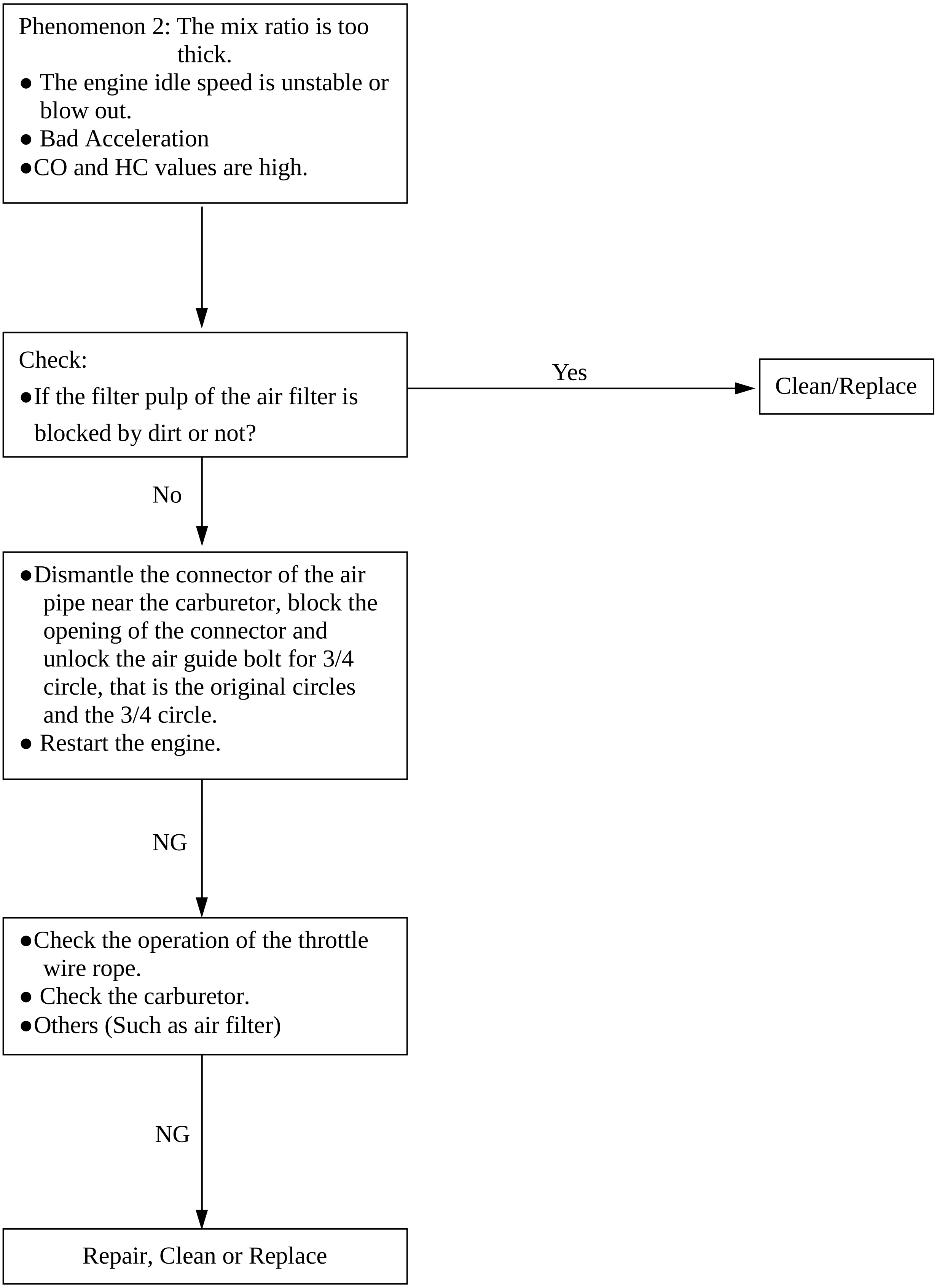
- Dismantle the connector of the air pipe near the carburetor, block the opening of the connector and unlock the air guide bolt for 3/4 circle.
- Restart the engine.

- Check the operation of the throttle wire rope.
- Check the carburetor.
- Others (Such as air filter)

Repair, Clean or Replace

Assembly and Adjustment of the Engine

Removal of Troubles in Carburetor



Phenomenon 2: The mix ratio is too thick.

- The engine idle speed is unstable or blow out.
- Bad Acceleration
- CO and HC values are high.

Check:

- If the filter pulp of the air filter is blocked by dirt or not?

Clean/Replace

- Dismantle the connector of the air pipe near the carburetor, block the opening of the connector and unlock the air guide bolt for 3/4 circle, that is the original circles and the 3/4 circle.
- Restart the engine.

- Check the operation of the throttle wire rope.
- Check the carburetor.
- Others (Such as air filter)

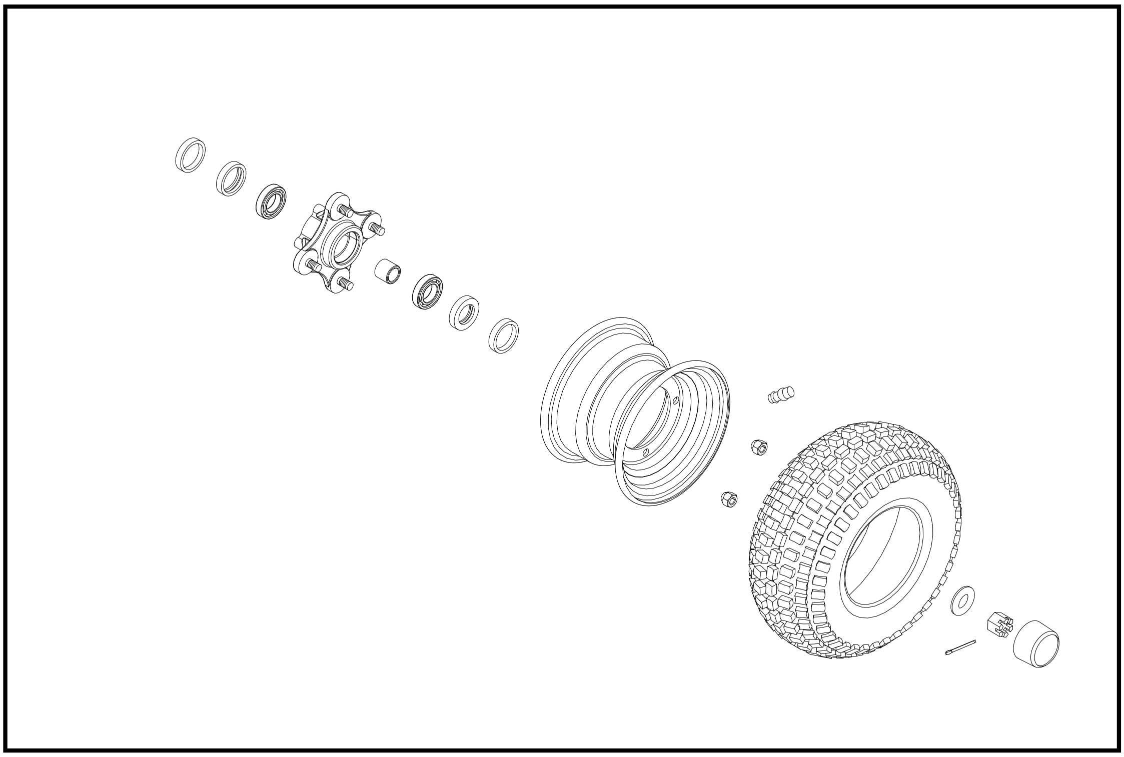
Repair, Clean or Replace

ATV Body

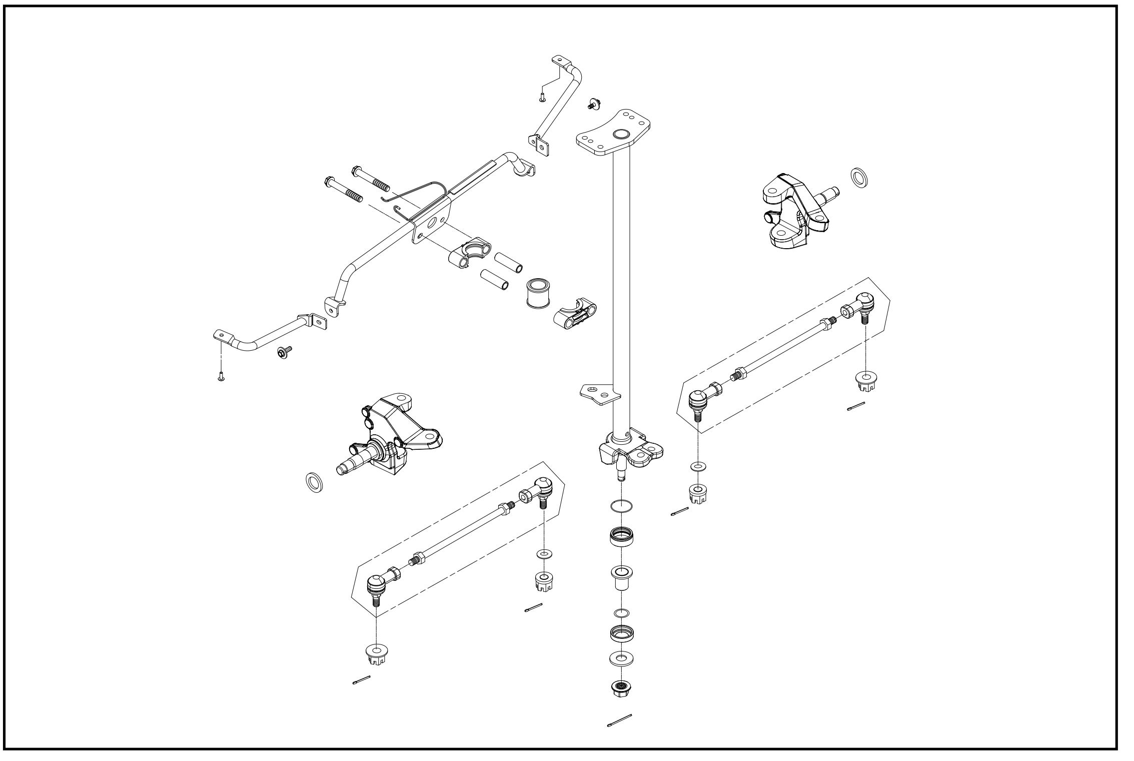
FRONT WHEEL, SUPENSION AND STEERING

1. **PARTS DRAWING**
2. **TROUBLESHOOTING**
3. **HANDLEBAR**
4. **THROTTLE HOUSING**
5. **FRONT WHEEL**
6. **FRONT BRAKES**
7. **STEERING SYSTEM**

1.PARTS DRAWING



ATV Body



ATV Body

2.TROUBLESHOOTING

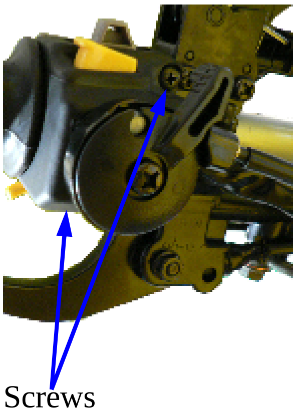
HARD STEERING	Faulty tire Steering shaft holder too tight Insufficient tire pressure Faulty steering shaft bushing Damaged steering shaft bushing
FRONT WHEEL WOBBLING	Faulty tire Worn front brake drum bearing Bent rim Axle nut not tightened properly
BRAKE DRAG	Incorrect brake adjustment Sticking brake cable
STEERS TO ONE SIDE	Bent tie rods Wheel installed incorrectly Unequal tire pressure Bent frame Worn swing arm pivot bushing Incorrect wheel alignment
POOR BRAKE PERFORMANCE	Brake shoes worn Worn brake drum Brake lining oily, greasy or dirty Improper brake adjustment
FRONT SUSPENSION	Loose front suspension fastener Binding suspension link
HARD SUSPENSION	Faulty front swing arm bushing Improperly installed front swing arms Bent front shock absorber swing rod
SOFT SUSPENSION	Wear front shock absorber springs Worn or damage front swing arm bushing

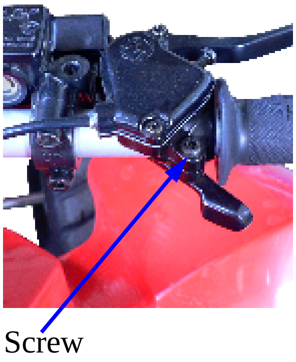
3.HANDLEBAR

Remove the following parts:
Seat, cover Fender , front fender and handlebar cover.

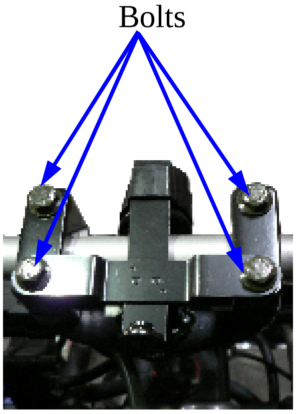
Remove the right and left master cylinder and remove bands then disconnect the rear and front fluid tube from the handlebar.

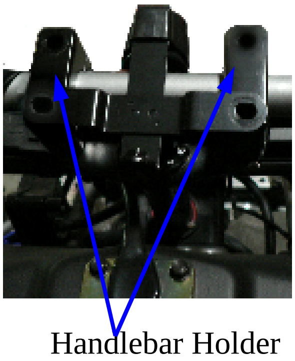
Remove the two screws and remove the handlebar switch.
Remove the screw and remove throttle unit.





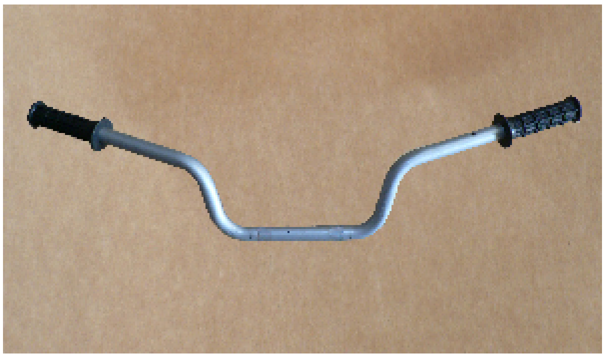
Remove the handlebar cover, then remove four handlebar holder bolts and handlebar holder.





INSPECTION

Inspect the handlebar.
Cracks/bends/ damage → Replace.



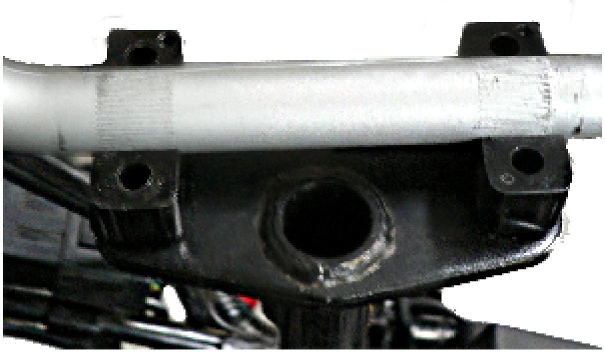
ATV Body

INSTALLATION

Install handlebar and handlebar holder, then tighten the four bolts.
Torque: 220 kgf-cm (22Nm, 16 lbf-ft)

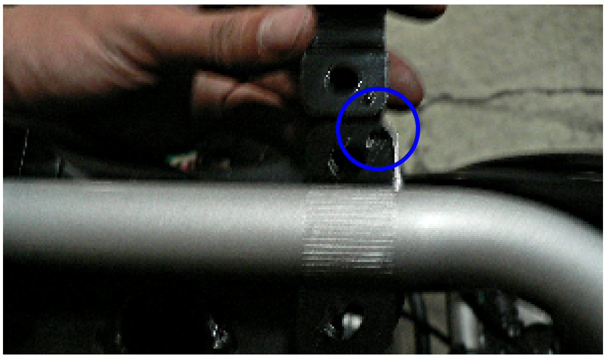
Notes:

Align the mark on the handlebar with the lower handlebar holder surface.

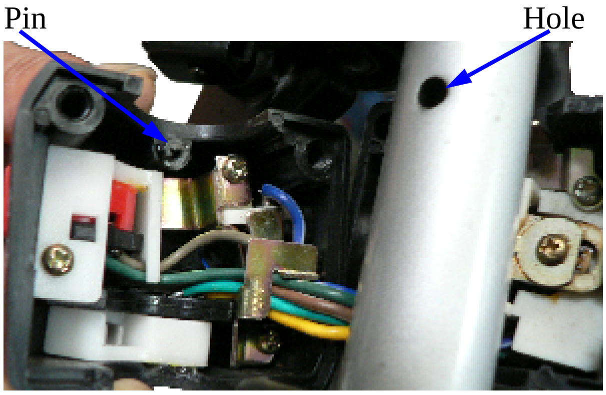


Notes:

- Be sure the upper handlebar holder mark face to front.
- First tighten the bolts on the front side of the handlebar holder, and then tighten the bolts on the rear side.

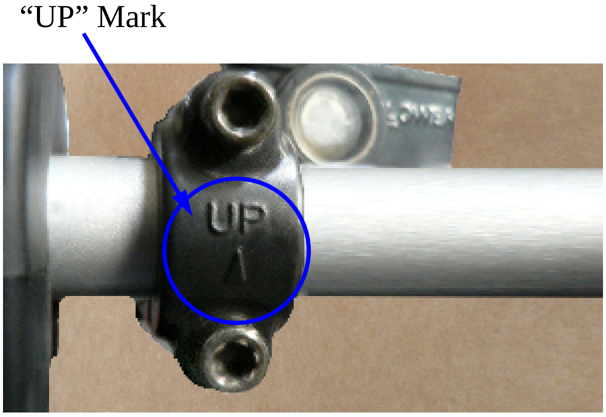


Install the handlebar switch by aligning the pin on the handlebar switch with the hole in the handlebar and then tighten the two screws.

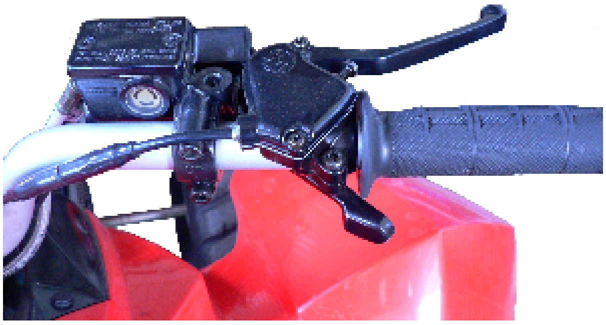


ATV Body

Place the right and left brake master cylinder on the handlebar and install the master cylinder holder with the “UP” mark facing up. First tighten the upper bolt and then tighten the lower blot.
Torque: 100 kg –cm (10 Nm, 7.2 lbf-ft)



Install the throttle unit in the handlebar and then install the lower holder and tighten the screw.



4. THROTTLE HOUSING

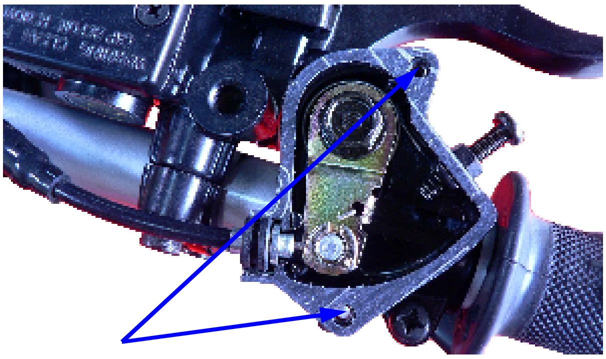
Disassembly

Unscrew the screws on the throttle housing cover.

Remove throttle housing cover and gasket.

Disconnect throttle cable from the throttle arm and remove from the throttle housing.

Assembly is in the reverse order of disassembly.



5. FRONT WHEEL

FRONT WHEEL

REMOVAL AND INSPECTION

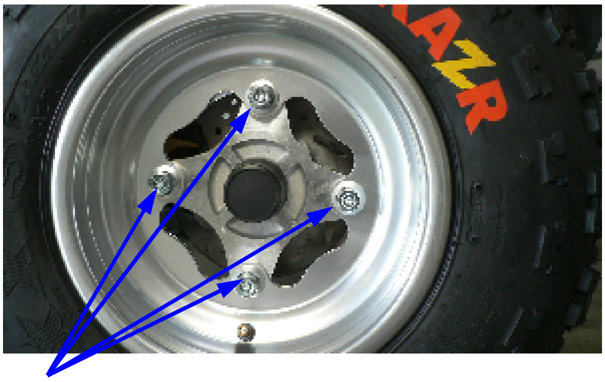
Place the machine on a level place.

Remove four nuts attaching the front wheel hub and front wheel.

Elevate the front wheels by placing a suitable stand under the frame.

Notes:

Support the machine securely so there is no danger of it falling over.

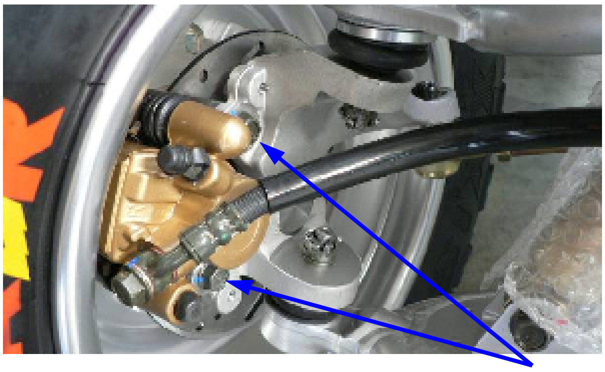


6. FRONT BRAKES

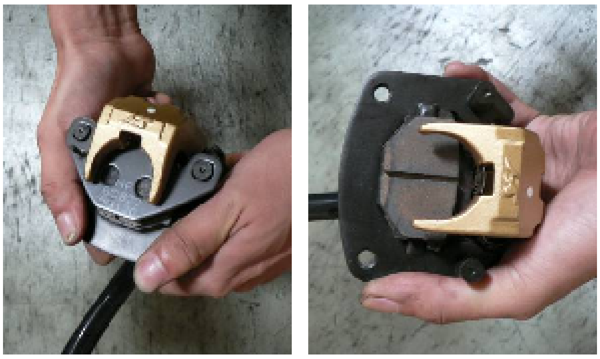
BRAKE PADS REMOVAL

Remove the front wheel. (⇨chapter 14)

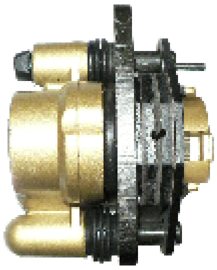
Remove the two bolts and then remove brake caliper.



Compress the brake caliper holder and remove brake pads.



A wear indicator is provided on each brake. The indicators allows checking of brake pads wear. Check the position of the indicator.



FRONT BRAKE DISK

Measure the brake disk thickness.

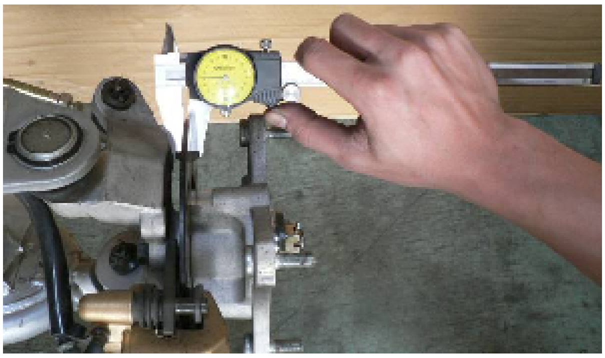
Service Limit:. 2.7（0.0106）

Measure the brake disk run out.

Service Limit: 0.3 mm(0.012 in)

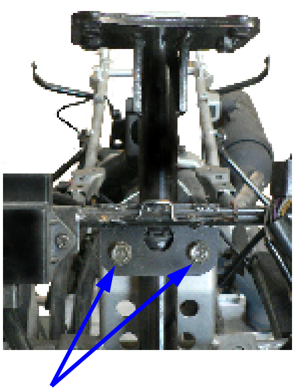
INSTALLATION

Reverse the “BRAKE PADS REMOVAL” procedures.

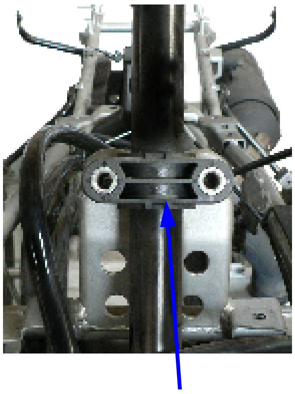


7. STEERING SYSTEM

REMOVAL AND INSPECTION
Remove handlebar.

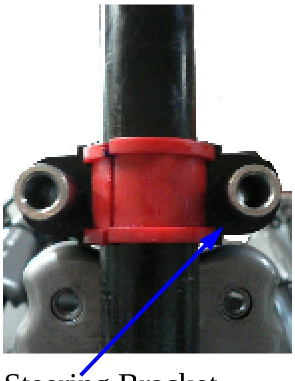


Bolts

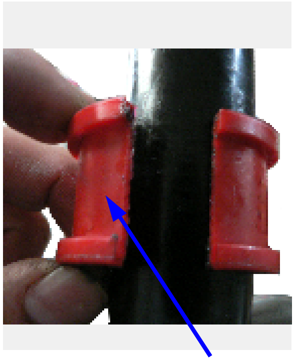


Steering Bracket

Remove the two bolts and remove the cable holder, steering brackets and dust seal.



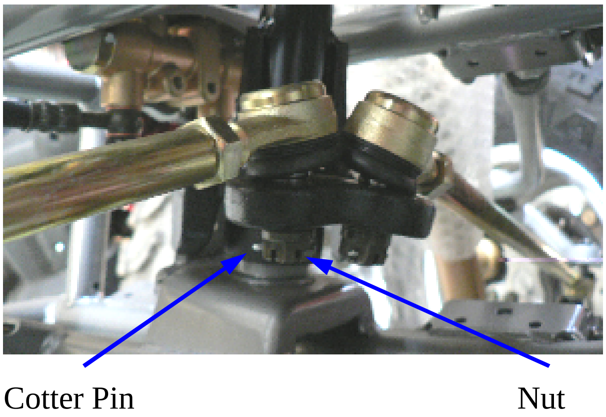
Steering Bracket



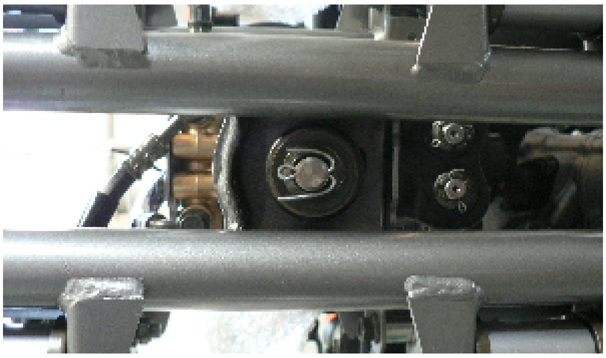
Dust Seal

ATV Body

Remove the cotter pins and nuts attaching the tie-rods, then disconnect the tie-rods from the steering column.

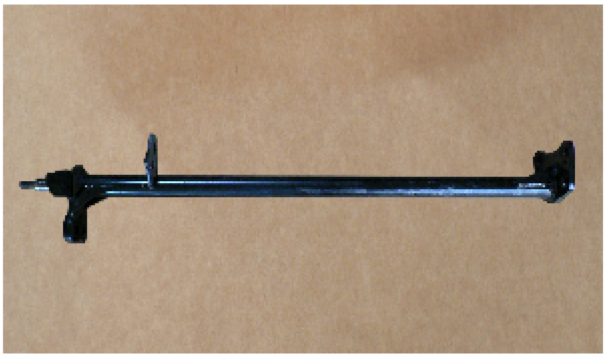


Remove the cotter pin and nut attaching the steering column under the frame body, then remove steering column.



Inspect the steering column.
Bends/damage → Replace.
Notes:

> Do not attempt to straighten a bent shaft, this may dangerously weaken the shaft. Thiar holder surface.



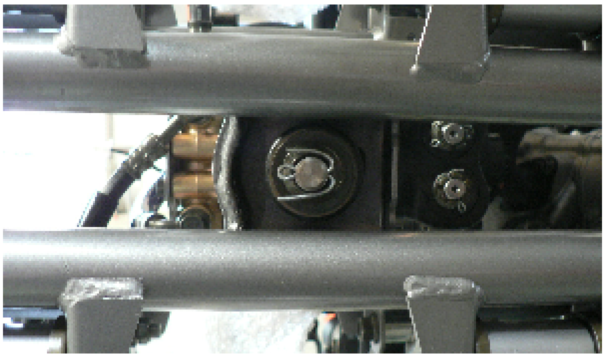
Inspect the steering brackets and oil seal.
Wear damage → Replace.

ATV Body

INSTALLATION

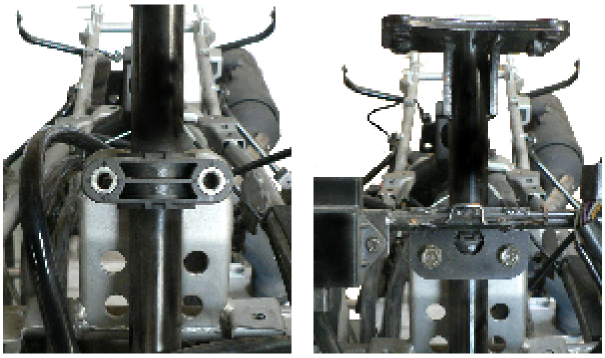
Reverse the “REMOVAL” procedures.

Install the steering column, then tighten the nut under the frame body.
Torque: 700 kgf-cm (70 Nm, 50 lbf-ft)
Install the cotter pin and band ends of cotter pin.



Notes:
Always use a new cotter pin.

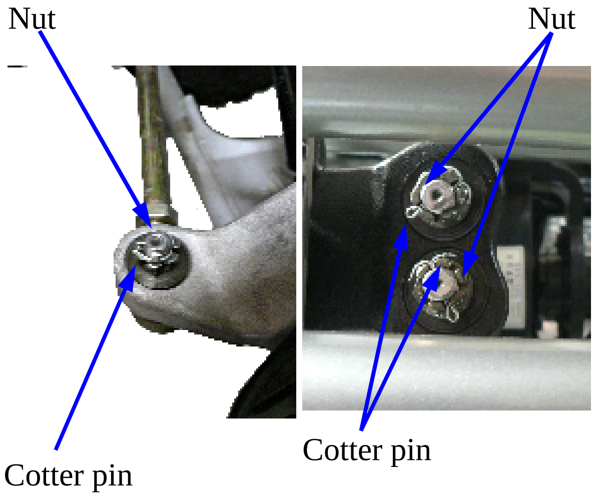
Assembly the steering column and tighten the two bolts.
Torque: 220 kgf-cm (22 Nm, 16 lbf-ft)



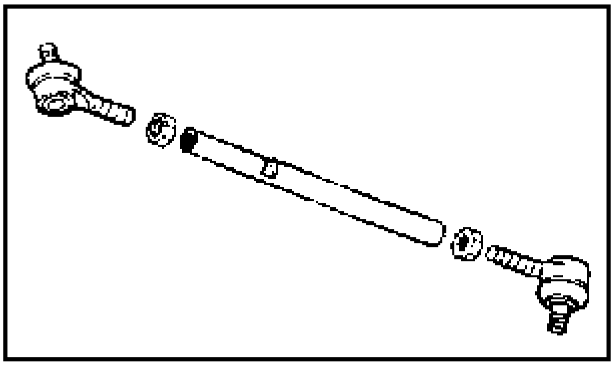
Install the tie rods, then tighten the nut.
Torque: 350 kgf-cm (35 Nm, 25 lbf-ft)
Install the cotter pins and band ends of cotter pins.
Notes:
Always use a new cotter pin.

Refer to the “TOE-IN ADJUSTMENT” section in the CHAPTER 3 to adjust toe-in

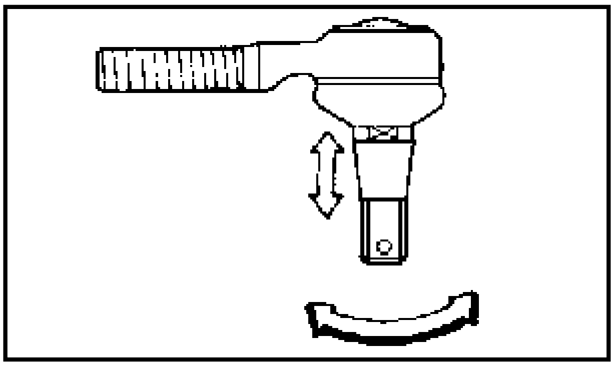
Remove the cotter pin and nut attaching the tie-rod and steering column.
Remove the cotter pin, and nut attaching the tie-rod and steering knuckle.
Then remove tie-rod.



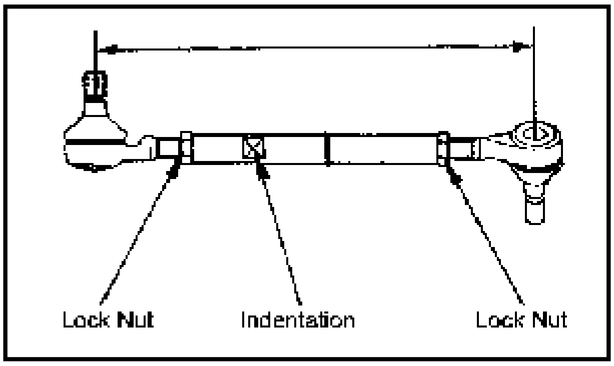
Inspect the tie-rod.
Bend/damage → Replace.



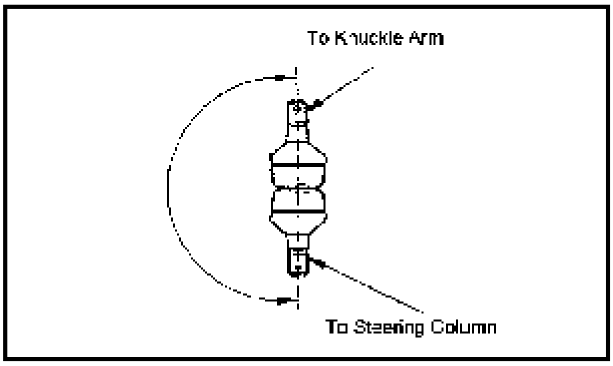
Cheek the tie-rod end movement.
Tie-rod end exists free play or turns roughly → Replace.
Check the tapered surface of the tie-rod end.’
Pitting/wear/damage → Replace.



Adjust the tie-rod length
Adjustment steps:
(The following procedures are done on both tie-rods, right and left.)
Loosen the tock nuts.
Adjust the tie-rod length by tuning both tie-rod ends.
Tie rod length: 430±1 mm



Set the rod-end (steering column side)in an angle where the indentation surface of the toe-rod is parallel to the rod-end shaft, and then tighten the lock nut.
Torque: 300 kgf-cm(30 Nm, 22lbf-ft)



Notes:

After making adjustment on both tie rods be sure to mark them R and L for identification.

Notes:

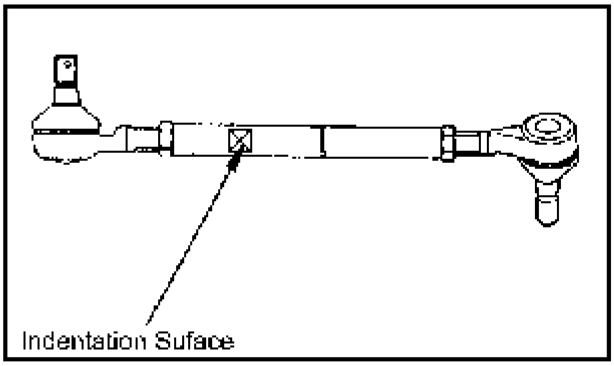
The threads on both rod-end must be of the same length.

INSTALLATION

Reverse the “REMOVAL/INSPECTION” procedures.
Install the tie-rod onto the steering knuckle and steering column, then tighten the nuts.
Torque:
Steering knuckle side:
210 kgf-cm (21Nm, 15 lbf-ft)
Steering column side:
350 kgf-cm (35Nm, 25lbf-ft)

Notes:

Be sure that the rod-end on the indentation surface side is connected to the steering knuckle.



Install the all cotter pins and band ends of cotter pins.

Notes:

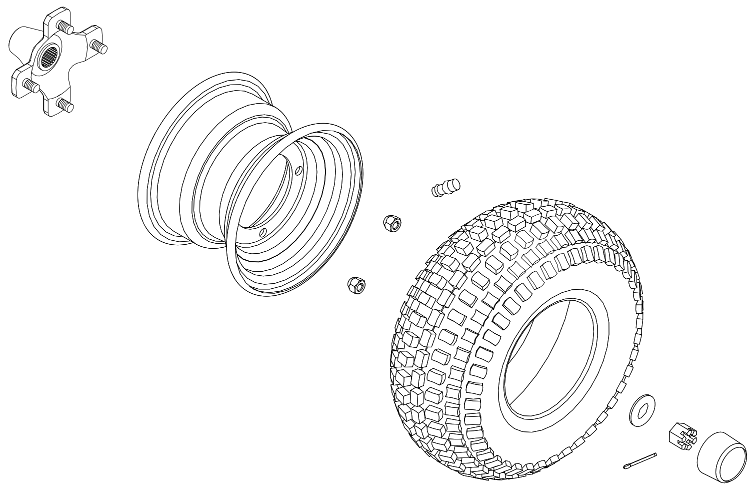
Always use a new cotter pin.

ATV Body

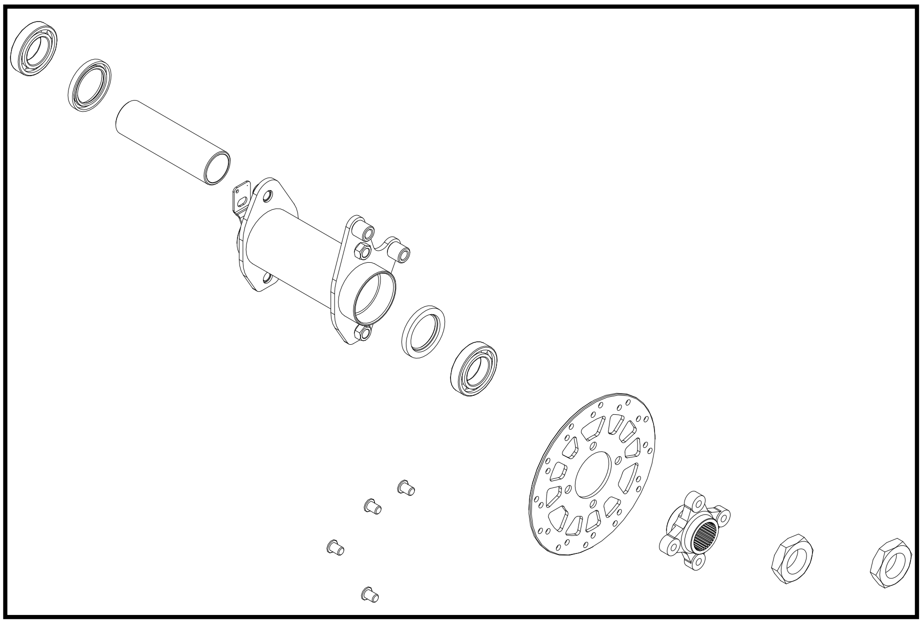
REAR WHEEL SYSTEM

1. **PARTS DRAWING**
2. **TROUBLESHOOTING**
3. **REMOVE REAR WHEEL AND REAR BRAKE**
4. **REAR BRAKE AND WHEEL INSTALLATION**
5. **SHOCK ABSORBER**
6. **SWING ARM**

1. PARTS DRAWING



ATV Body



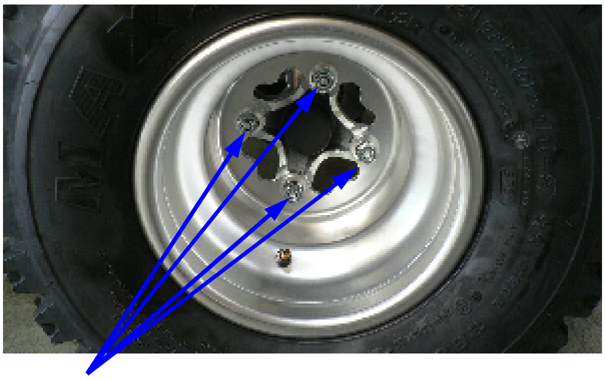
ATV Body

2. TROUBLESHOOTING

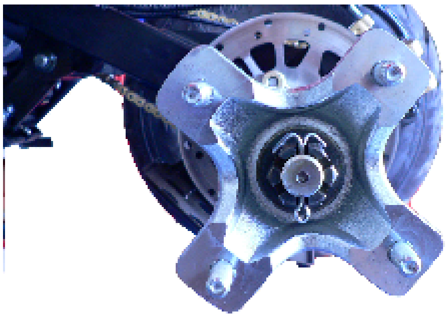
Bad Brake Performance	Brake shoes are worn Bad brake adjustment Brake lining are oily, greasy or dirty Brake drums are worn Brake arm setting is improperly engage
Vibration or wobble	Axle is not tightened well Bent rim Axle bearings are worn Faulty tires Rear axle bearing holder is faulty
Brake Drag	Incorrect brake adjustment Sticking brake cam Sticking brake cable
Hard Suspension	Bent damper rod Faulty swing arm pivot bushing
Soft Suspension	Wear shock absorber damper Wear shock absorber spring

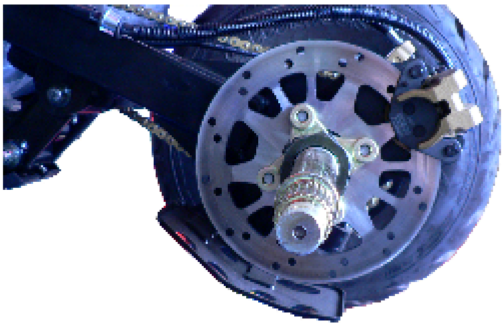
3. REMOVE REAR WHEEL AND REAR BRAKE

Remove 4 bolts.

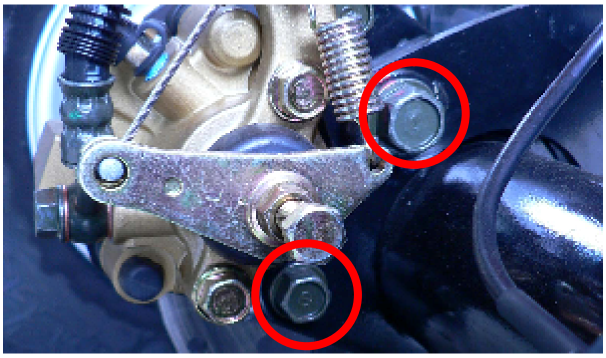


Remove Cotter pin and Cross thread nut。

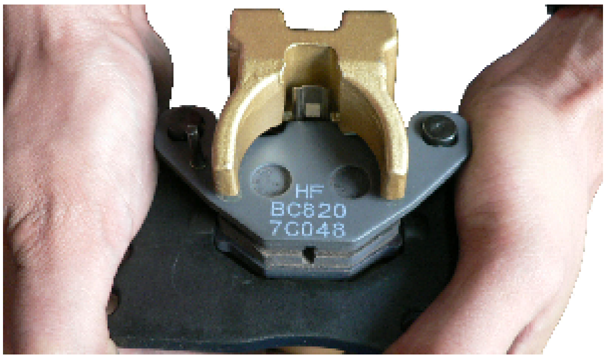


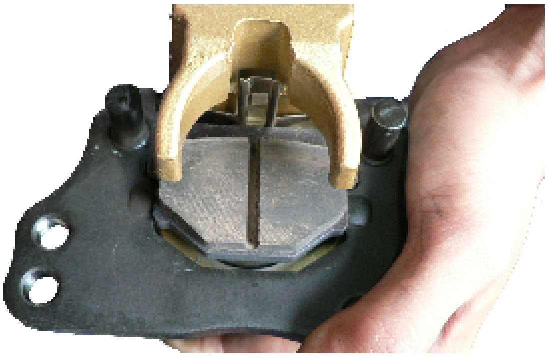


Remove the 2 caliper ass'y bolt.



Pressure downward to remove the brake pads.





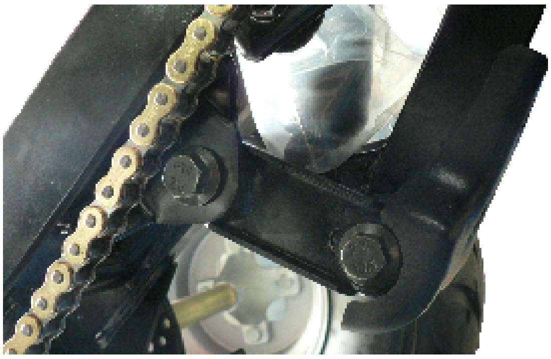
Check the brake pad if the thickness is under the
change to new pads.

4. REAR BRAKE AND WHEEL INSTALLATION

Install the brake pad as the reverse process.

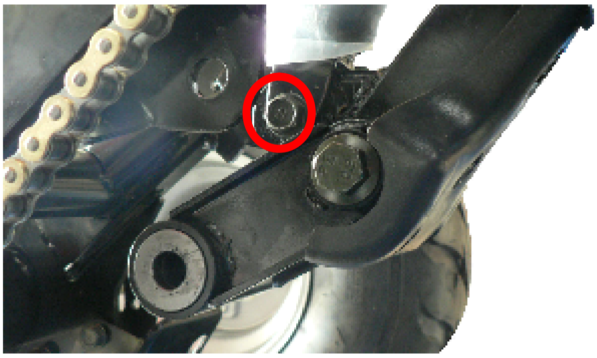
5. SHOCK ABSORBER

Remove shock link, rear bolt.



Remove shock link, rear.

Remove shock absorber bolt.



Remove shock absorber super bolt

Install the parts as the reverse process.

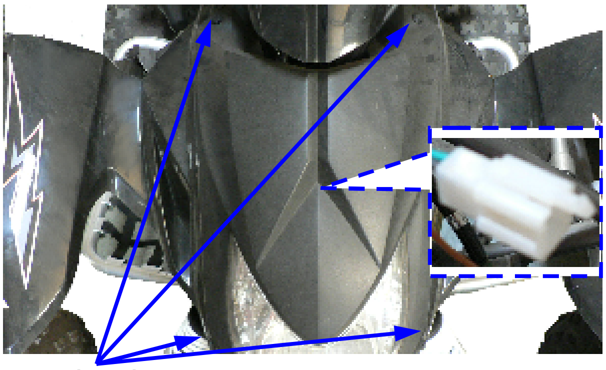
ATV Body

FENDER AND EXHAUST PIPE

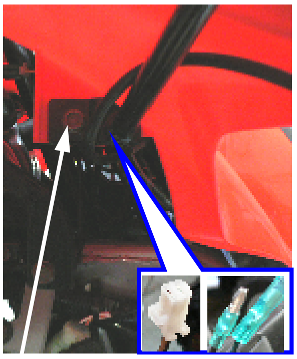
1. **FRONT FENDER REMOVAL**
2. **REAR FENDER REMOVAL**
3. **EXHAUST PIPE REMOVAL**
4. **EXHAUST PIPE INSTALLATION**

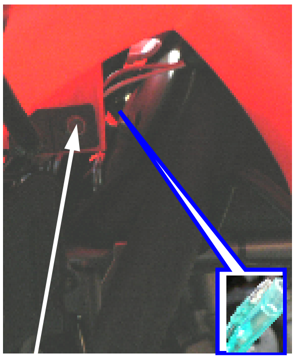
1. FRONT FENDER REMOVAL

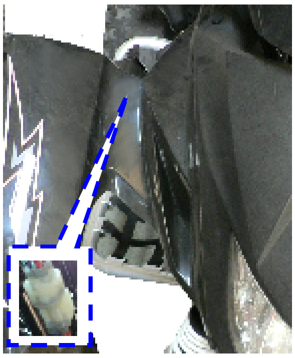
Remove the four plastic rivets and headlight connector.



Remove the bolts from the support bracket, and remove the right & left Signal Light connector, main switch connector.

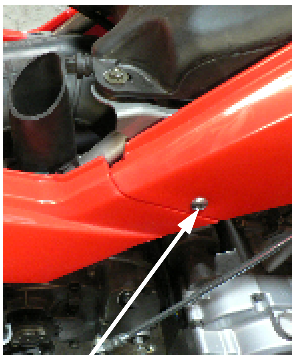




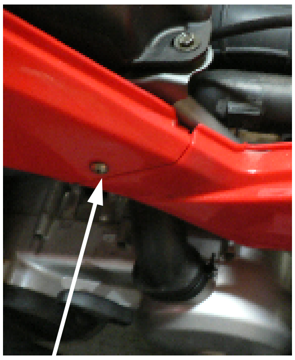


ATV Body

Remove the screws from the two side fenders.



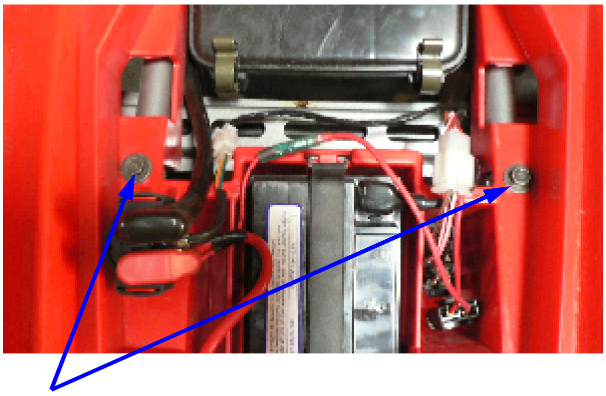
Screw



Screw

2. REAR FENDER REMOVAL

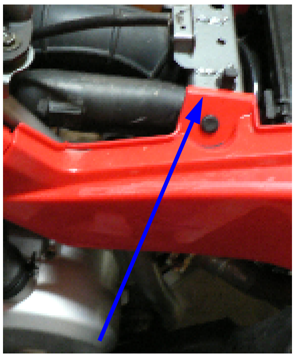
Remove the two bolts.

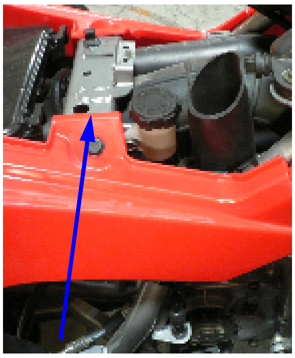


Bolts

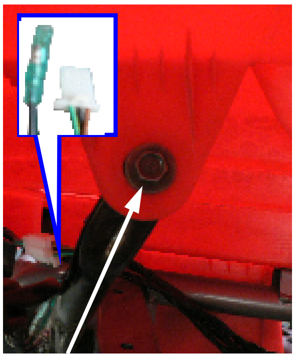
ATV Body

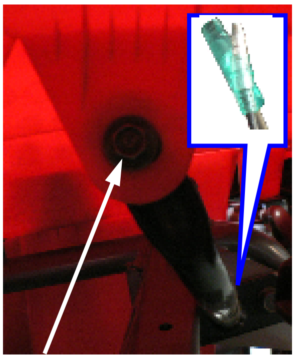
Remove the plastic rivet from the rear fender.


Plastic Rivet

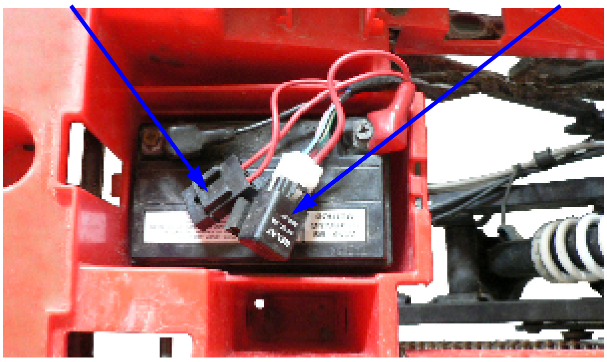

Plastic Rivet

Remove the 2 bolts from support under rear Fender and right & left signal light, tail light connector.

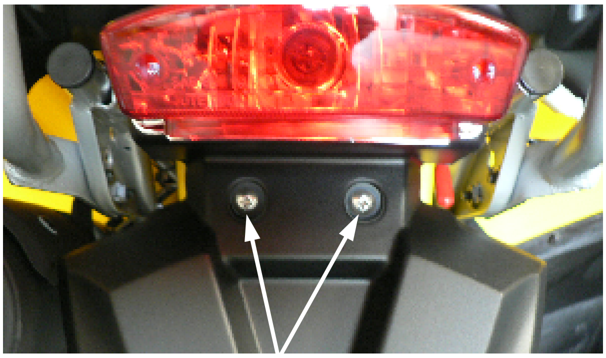

Bolts


Bolts

Remove the battery wire.

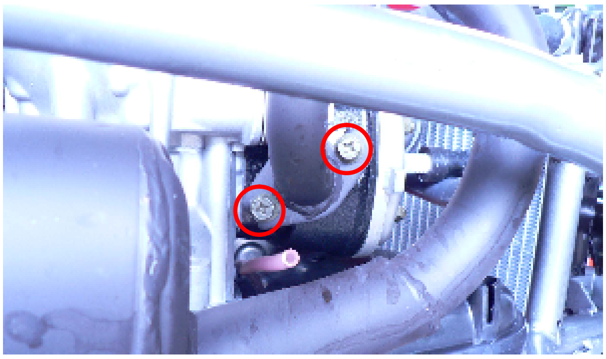


Remove the two screws from rear cover fender.

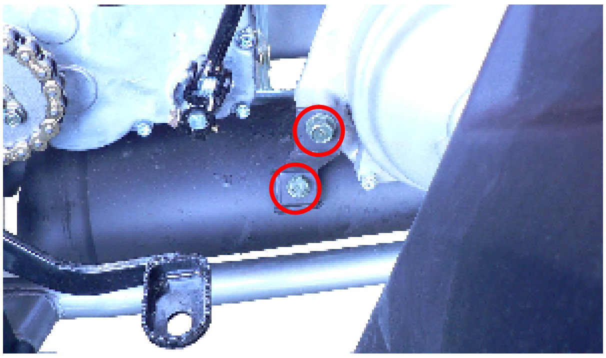

Screws

3. EXHAUST PIPE REMOVAL

Remove exhaust muffler 2PCS bolt.



Remove exhaust muffler 2PCS bracket bolt.



4. EXHAUST PIPE INSTALLATION

Installation is the reverse order of removal.

Torque: Exhaust muffler bolts 300Kg/cm

NOTE:

After installation, check entire system to make sure that there are no exhaust leaks.

ATV Body

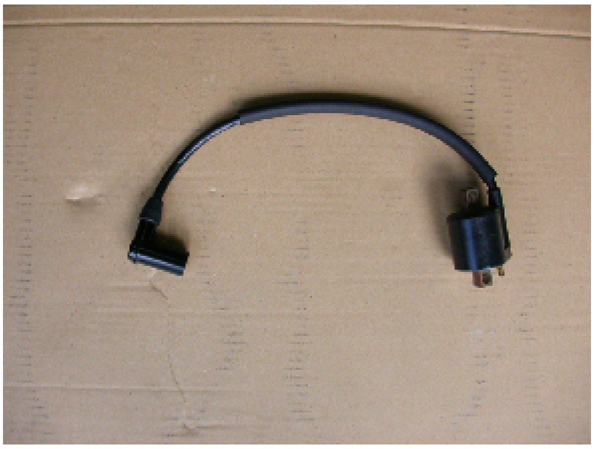
ELECTRICAL SYSTEM

1. TROUBLESHOOTING
2. IGNITION COIL
3. IGNITION TIMING
4. ALTERNATOR EXCITER COIL
5. BATTERY CAUTION
6. BATTERY VOLTAGE
7. CHARGING
8. ELECTRIC STARTER
9. LIGHT BULBS REPLACEMENT
10. WIRING DIAGRAMS

1. TROUBLESHOOTING

ENGINE STARTS BUT STOPS	IMPROPER IGNITION TIMING FAULTY SPARK PLUG
NO SPARK AT PLUG	ENGINE STOP SWITCH AT LEFT OR RIGHT POSITION GEARSHIFT BAR IS NOT AT NEUTRAL POSITION FAULTY IGNITION COIL FAULTY GENERATOR FAULTY CDI UNIT POORLY CONNECTED: Between CDI and ignition coil Between alternator and CDI unit Between CDI and engine stop switch Between ignition coil and spark plug Between generator and CDI unit
ENGINE STARTS BUT RUNS POORLY	IGNITION PRIMARY CIRCUIT Faulty generator Faulty CDI unit Faulty alternator Loosen contacted terminals Faulty ignition coil IGNITION SECONDARY CIRCUIT Faulty plug Loosen contacted spark plug wire IMPROPER IGNITION TIMING Faulty generator Faulty CDI unit
CHARGING SYSTEM FAILURE	LOOSE, BROKEN OR SHORTED WIRE. FAULTY ALTERNATOR FAULTY IGNITION SWITCH

2. IGNITION COIL



Remove the spark plug cap from the spark plug.
Disconnect the ignition coil primary wire.

Measure the primary coil resistance.

STANDARD: 1.1Ω±20%

Measure the secondary coil resistance with the spark plug cap in place.

STANDARD: 6.61 KΩ±20%

3. IGNITION TIMING

The ignition advance is 18□±1□/5000rpm
The capacitive discharge ignition(CDI) system is factory pre-set and does not require adjustment.

4. ALTERNATOR EXCITER COIL

Remove the seat/ rear fender and front fender. disconnect the exciter coil wire.
Measure the resistance between the yellow or white or green wire and ground.

STANDARD : 467-700Ω

Electrolyte is poisonous. Drink large quantities of water or milk and call a physician if swallowed.

5. BATTERY CAUTION

The battery gives off explosive gases; keep sparks, flames and cigarettes away. Provide adequate ventilation when charging or using the battery in an open area. The battery contains sulfuric acid (electrolyte). Contact with skin or eyes may cause severe burns. Wear protective clothing and a face shield. ***Electrolyte is poisonous. Drink large quantities of water or milk and call a physician if swallowed.***

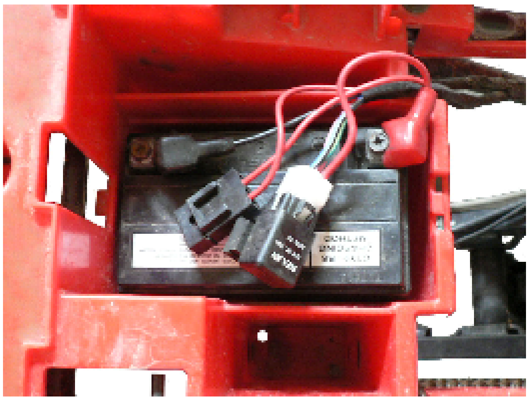
6. BATTERY VOLTAGE

Battery is under the seat; you can see this battery after removing the seat.

Measure the battery voltage using a voltmeter.

VOLTAGE: Fully charged : 13.1 V
Undercharged : Below 12.0 V

BATTERY REMOVAL

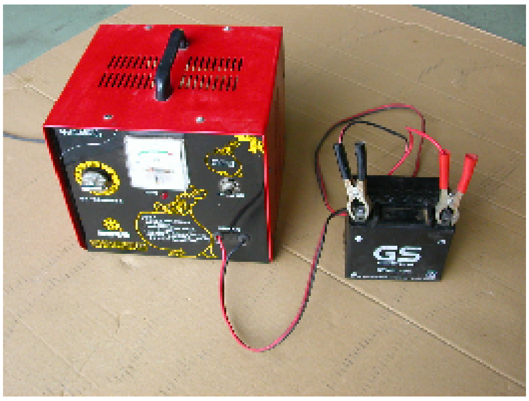


Remove the seat, then you can see the battery. Disconnect the negative cable and then the position cable and remove the battery.

BATTERY INSTALLATION

Install the battery in the reverse order of removal. After installing the battery, terminals with clean grease.

7. CHARGING



Connect the charge positive cable to the attery positive terminal. Connect the charge egative cable to the battery negative terminal.

Using 9A charging current about 5 hours. Normal charging) Or using 4A charging current about 1 hour. (Quick charging) Keep flames and spark away from a battery being charged. Quickcharging should be limited to an emergency; normal charging is preferred.

ATV Body

8. ELECTRIC STARTER

Information

A weak battery may be unable run the starter motor quickly enough.

If the battery voltage is enough while the engine is not cranking, the starter motor may be damaged.

Troubleshooting

Starter motor turns slowly

Weak battery.
Poorly connected starter motor cable.
Faulty starter motor.
Poorly connected battery ground cable.

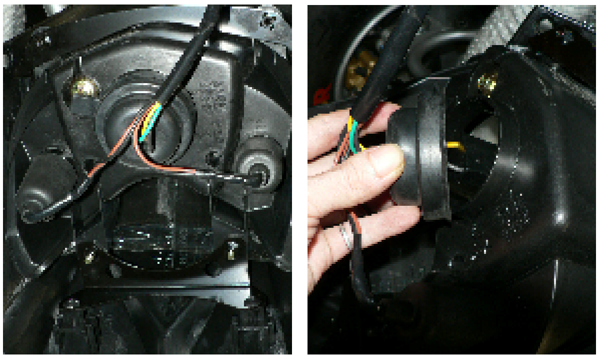
Starter motor will not turn

Engine stop switch at left or right position.
Gearshift bar is not at neutral position.
Check for a blown fuse near battery.
Make sure that the battery is fully charged and in good condition.

9. LIGHT BULBS REPLACEMENT

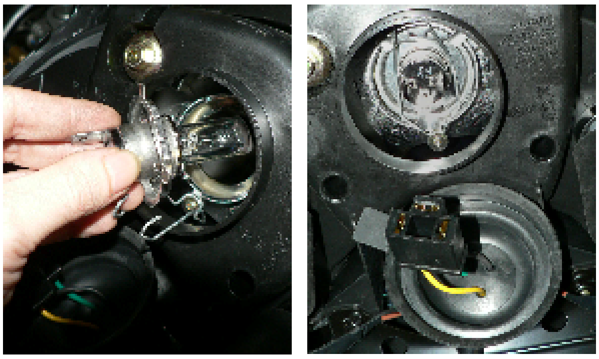
Remove the front fender cover.

Remove the rubber boot from the headlight case.
Disconnect the headlight wire connector.

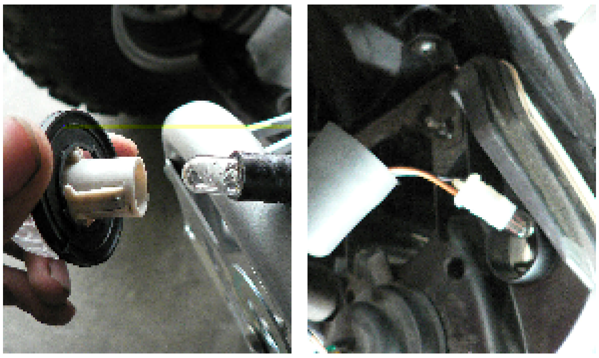


Relax the lock clips to remove the bulb and replace with a new one.

Install the bulb, aligning the bulb socket groove with the bulb tab and set the lock clips.
Connect headlight were connector.
Install the rubber boot.
Install the front fender cover in the reverse order of removal.



POSITION LIGHT
Remove the bulb socket by pulling it out.
Remove the bulb.
Install the bulb in the reverse order of Removal

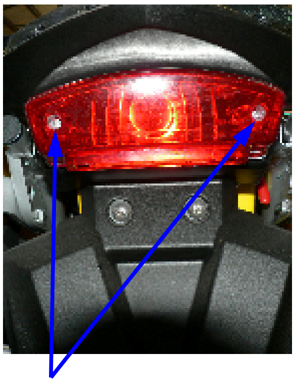


ATV Body

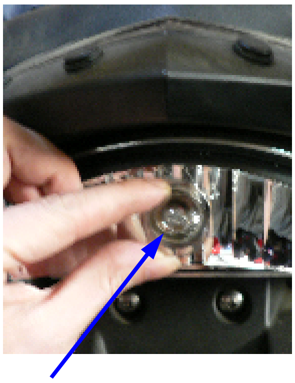
TAIL/BRAKE LIGHT

Remove two screws and brake light cover.
Remove the bulb socket by turning it counterclockwise.
Remove the bulb.

Install the bulb in the reverse order of removal.



Screws



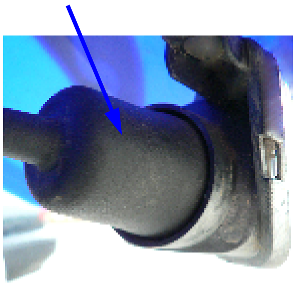
Bulb

SIGAL LIGHT (ON ROAD)

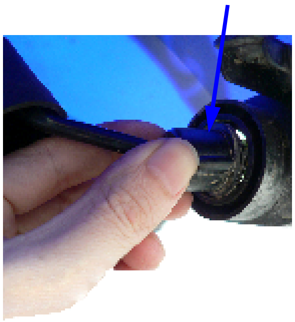
FRONT

Remove the rubber boot from the turn signal light case.
Remove the bulb socket by turning it counterclockwise.

Rubber Boot

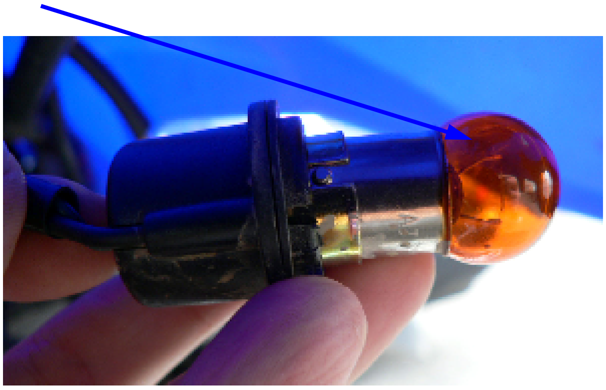


Bulb Socket



Remove the bulb.
Install the bulb in the reverse order of removal.

Bulb

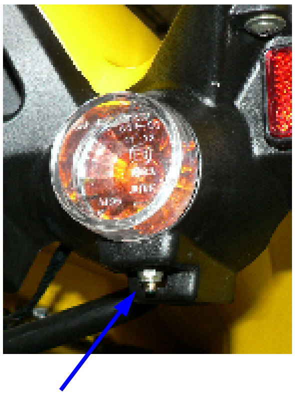


ATV Body

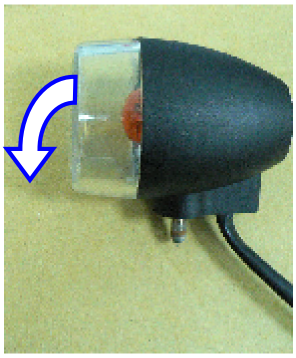
REAR

Remove the nut .
Remove rear signal light cover.（It is install without screw.）
Remove the bulb socket by turning it counterclockwise.
Remove the bulb.

Install the bulb in the reverse order of removal.



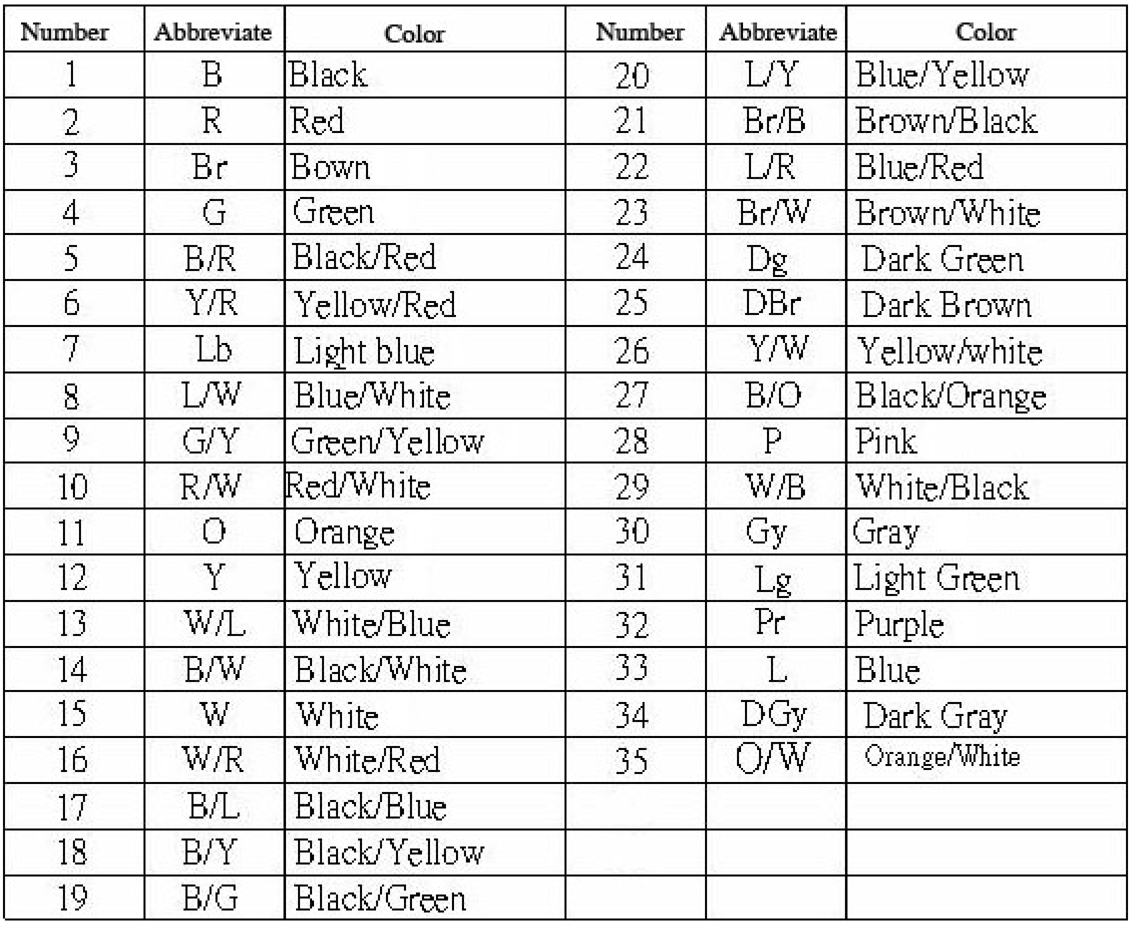
Nut



Signal light cover

ATV Body

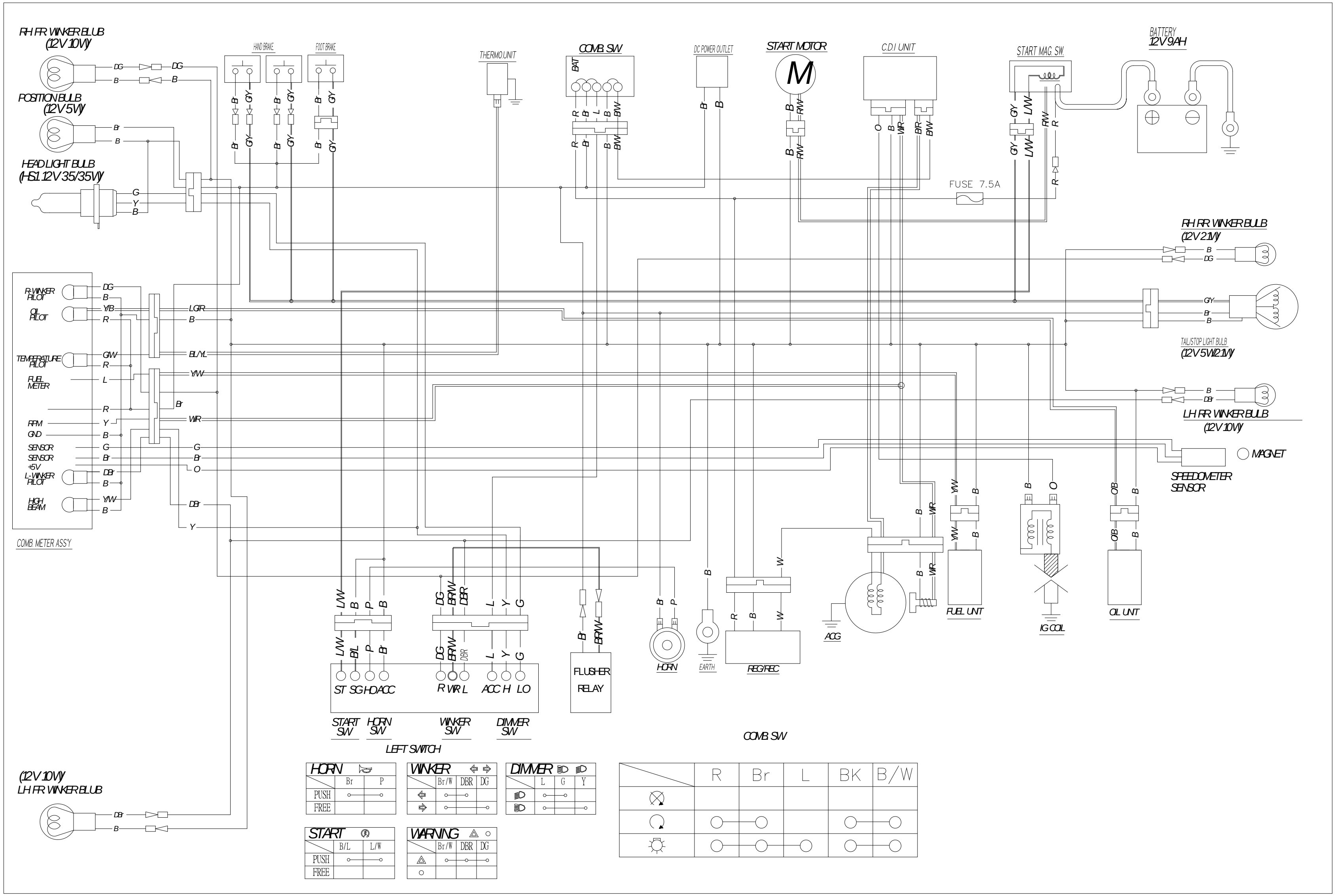
10.WIRING DIAGRAMS



Number	Abbreviate	Color	Number	Abbreviate	Color
1	B	Black	20	L/Y	Blue/Yellow
2	R	Red	21	Br/B	Brown/Black
3	Br	Bown	22	L/R	Blue/Red
4	G	Green	23	Br/W	Brown/White
5	B/R	Black/Red	24	Dg	Dark Green
6	Y/R	Yellow/Red	25	DBr	Dark Brown
7	Lb	Light blue	26	Y/W	Yellow/white
8	L/W	Blue/White	27	B/O	Black/Orange
9	G/Y	Green/Yellow	28	P	Pink
10	R/W	Red/White	29	W/B	White/Black
11	O	Orange	30	Gy	Gray
12	Y	Yellow	31	Lg	Light Green
13	W/L	White/Blue	32	Pr	Purple
14	B/W	Black/White	33	L	Blue
15	W	White	34	DGy	Dark Gray
16	W/R	White/Red	35	O/W	Orange/White
17	B/L	Black/Blue			
18	B/Y	Black/Yellow			
19	B/G	Black/Green			

ATV Body

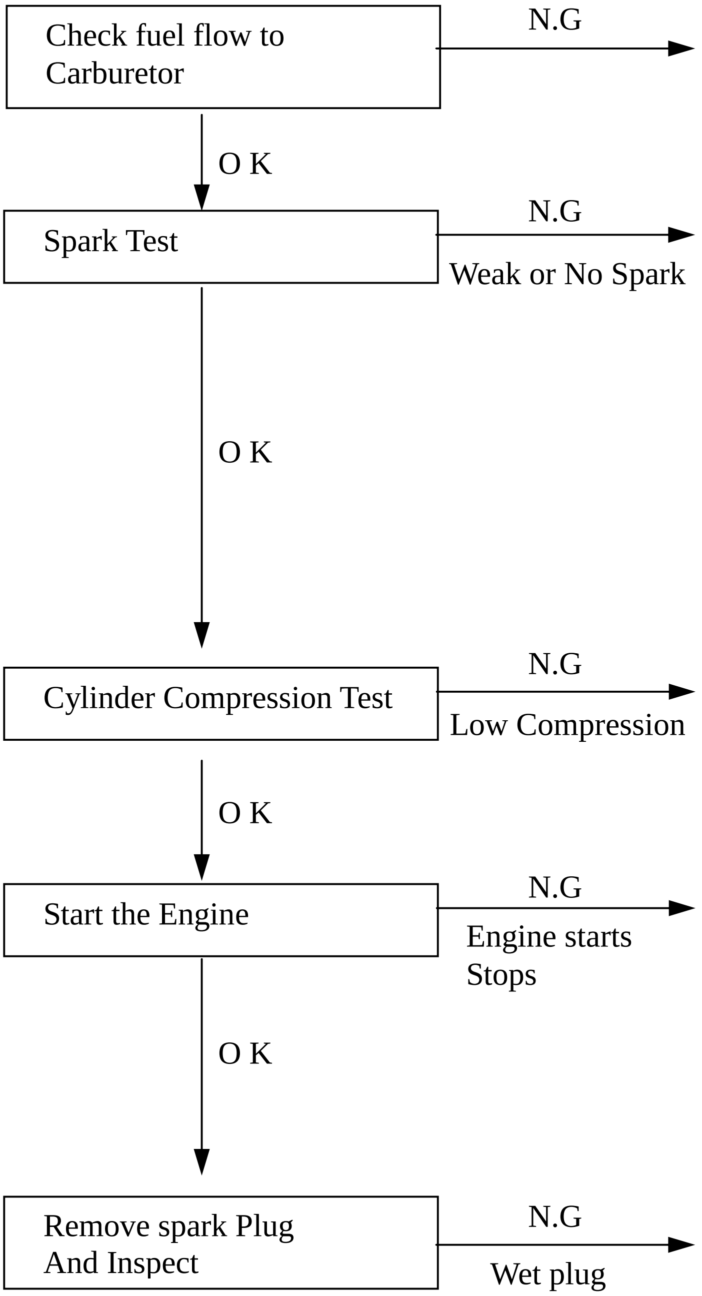
1. TROUBLESHOOTING


RH FR WINKER BLUB (12V 10W)
POSITION BULB (12V 5W)
HEAD LIGHT BULB (HS1 12V 35/35W)
HAND BRAKE
FOOT BRAKE
THERMO UNIT
COMB. SW
DC POWER OUTLET
START MOTOR
C.D.I UNIT
START MAG. SW
BATTERY 12V 9AH
FUSE 7.5A
RH RR WINKER BULB (12V 21W)
TAIL/STOP LIGHT BULB (12V 5W/21W)
LH RR WINKER BULB (12V 10W)
MAGNET
SPEEDOMETER SENSOR
R-WINKER PILOT
OIL PILOT
TEMPERATURE PILOT
FUEL METER
RPM
GND
SENSOR
+5V
L-WINKER PILOT
HIGH BEAM
COMB. METER ASSY
FUEL UNIT
IG COIL
OIL UNIT
ACG
REG/REC
EARTH
HORN
FLUSHER RELAY
ST SG HO ACC
R W/R L
ACC H LO
START SW
HORN SW
WINKER SW
DIMMER SW
LEFT SWITCH
(12V 10W) LH FR WINKER BLUB
COMB. SW
HORN Br P PUSH FREE
WINKER Br/W DBR DG
DIMMER L G Y
START B/L L/W PUSH FREE
WARNING Br/W DBR DG
R Br L BK B/W

11.TROUBLE SHOOTING

1. Engine does not start
2. Poor Performance at low and idle speed
3. Poor Performance at high speed
4. Loss of power
5. Poor handling

11-1.Engine does not start



Possible Causes

Check fuel flow to Carburetor — N.G
- No fuel in fuel tank
- Clogged float valve
- Clogged fuel tank cap breather hole
- Clogged fuel line or filter

O K

Spark Test — N.G — Weak or No Spark
- Faulty Spark Plug
- Fouled spark Plug
- Faulty CDI unit
- Faulty Alternator
- Faulty engine stop switch
- Poor connection / Broken or shorted wires
- Broken or shorted ignition coil
- Broken or shorted spark plug wire
- Faulty pulse generator
- Faulty ignition switch

O K

Cylinder Compression Test — N.G — Low Compression
- Worn cylinder and/or piston rings
- Damaged cylinder head gasket

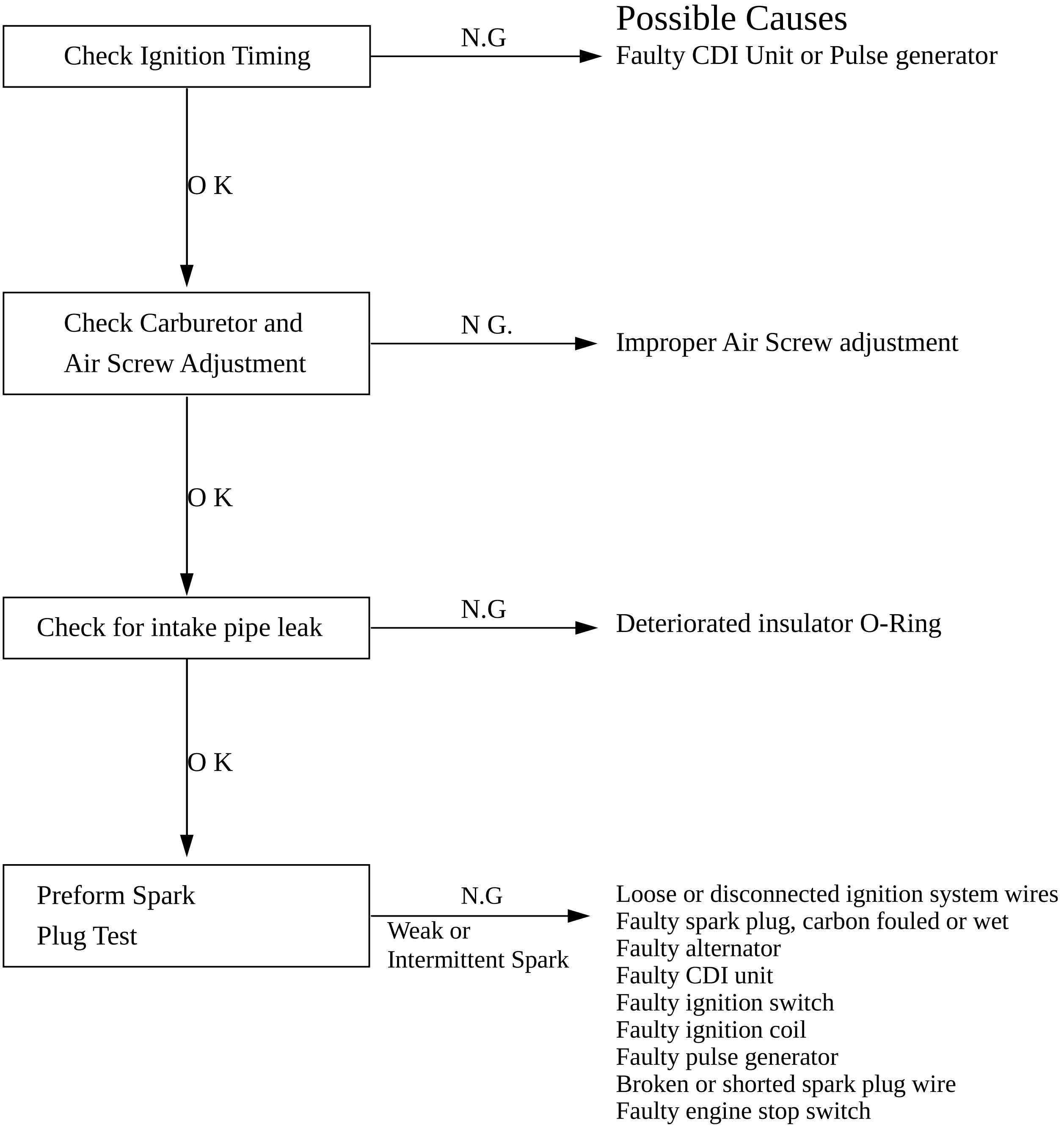
O K

Start the Engine — N.G — Engine starts Stops
- Auto choke off or damaged
- Auto choke power wire disconnected
- Improper adjustment of air screw
- Improper ignition timing
- Fuel/Air mixture ratio to lean

O K

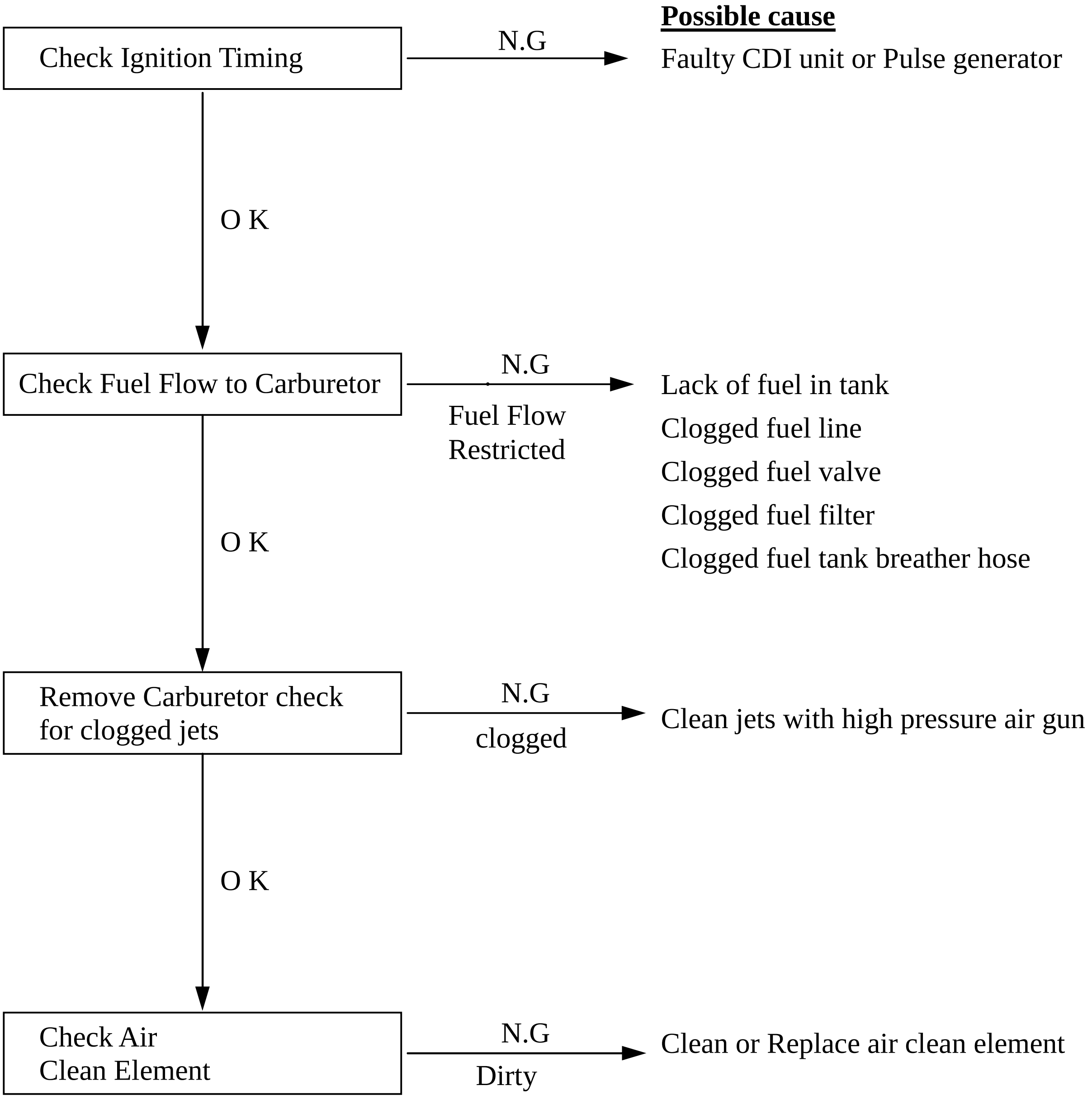
Remove spark Plug And Inspect — N.G — Wet plug
- Carburetor flooded
- Improper adjustment of air screw
- Fuel/Air mixture ratio to rich
- Auto choke stuck or damaged
- Air cleaner dirty

11-2 Poor Performance at Low / Idle Speed


Possible Causes
Check Ignition Timing
N.G
Faulty CDI Unit or Pulse generator
O K
Check Carburetor and Air Screw Adjustment
N G.
Improper Air Screw adjustment
O K
Check for intake pipe leak
N.G
Deteriorated insulator O-Ring
O K
Preform Spark Plug Test
N.G
Weak or Intermittent Spark
Loose or disconnected ignition system wires
Faulty spark plug, carbon fouled or wet
Faulty alternator
Faulty CDI unit
Faulty ignition switch
Faulty ignition coil
Faulty pulse generator
Broken or shorted spark plug wire
Faulty engine stop switch

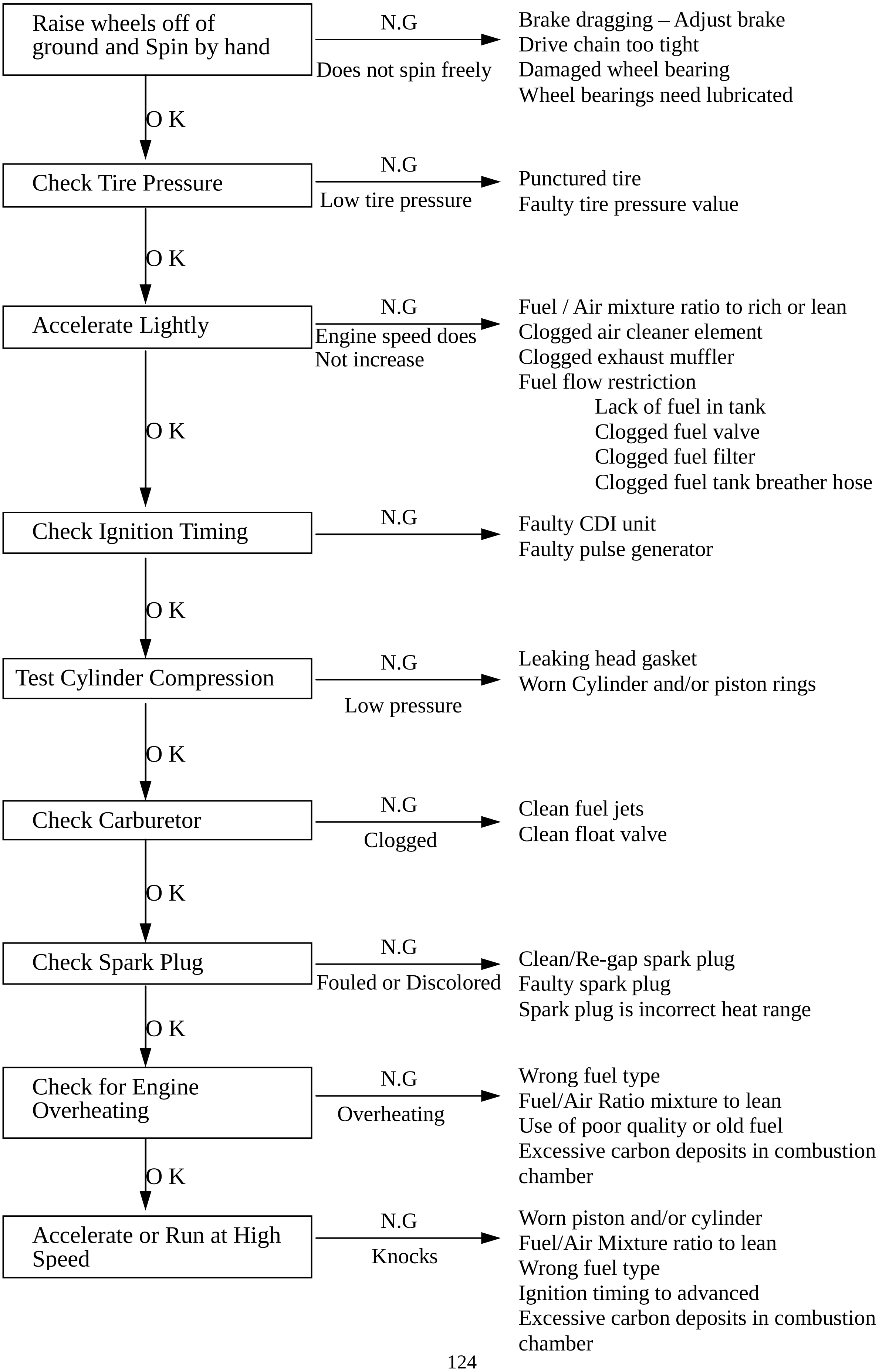
ATV Body

11-3 Poor performance at high speed


Possible cause
Check Ignition Timing
N.G
Faulty CDI unit or Pulse generator
O K
Check Fuel Flow to Carburetor
N.G
Fuel Flow Restricted
Lack of fuel in tank
Clogged fuel line
Clogged fuel valve
Clogged fuel filter
Clogged fuel tank breather hose
O K
Remove Carburetor check for clogged jets
N.G
clogged
Clean jets with high pressure air gun
O K
Check Air Clean Element
N.G
Dirty
Clean or Replace air clean element

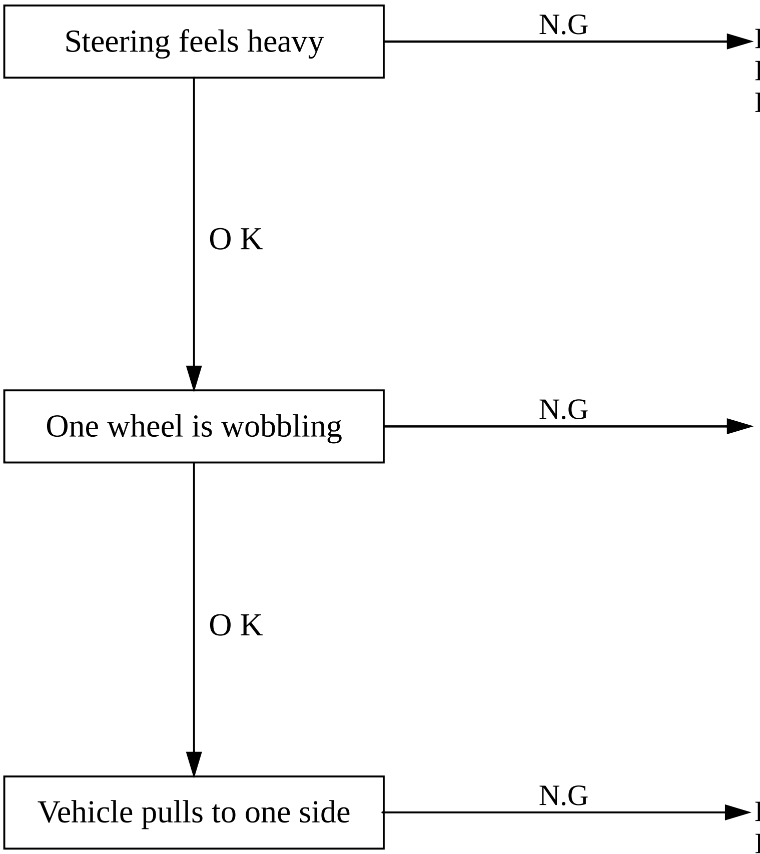
ATV Body

11-4 Loose of power


Raise wheels off of ground and Spin by hand
N.G
Does not spin freely
Brake dragging – Adjust brake
Drive chain too tight
Damaged wheel bearing
Wheel bearings need lubricated
O K
Check Tire Pressure
N.G
Low tire pressure
Punctured tire
Faulty tire pressure value
O K
Accelerate Lightly
N.G
Engine speed does Not increase
Fuel / Air mixture ratio to rich or lean
Clogged air cleaner element
Clogged exhaust muffler
Fuel flow restriction
Lack of fuel in tank
Clogged fuel valve
Clogged fuel filter
Clogged fuel tank breather hose
O K
Check Ignition Timing
N.G
Faulty CDI unit
Faulty pulse generator
O K
Test Cylinder Compression
N.G
Low pressure
Leaking head gasket
Worn Cylinder and/or piston rings
O K
Check Carburetor
N.G
Clogged
Clean fuel jets
Clean float valve
O K
Check Spark Plug
N.G
Fouled or Discolored
Clean/Re-gap spark plug
Faulty spark plug
Spark plug is incorrect heat range
O K
Check for Engine Overheating
N.G
Overheating
Wrong fuel type
Fuel/Air Ratio mixture to lean
Use of poor quality or old fuel
Excessive carbon deposits in combustion chamber
O K
Accelerate or Run at High Speed
N.G
Knocks
Worn piston and/or cylinder
Fuel/Air Mixture ratio to lean
Wrong fuel type
Ignition timing to advanced
Excessive carbon deposits in combustion chamber

ATV Body

11-5 **Poor Handing**


Steering feels heavy
N.G
O K
One wheel is wobbling
N.G
O K
Vehicle pulls to one side
N.G

Possible Causes

Damaged steering bearing
Damaged steering shaft bushing
Bent steering shaft

Bent rim
Improperly installed wheel hub
Excessive wheel bearing play
Bent swing arm
Bent frame
Excessive wear of swing arm bushing
Bent Axle

Bent tie-rod
Incorrect tie-rod adjustment
Rear tire pressure incorrect
Improper wheel alignment
Bent frame